The Goulstonian Lectures

ON

SOME DISORDERS OF THE CEREBRAL CIRCULATION AND THEIR CLINICAL MANIFESTATIONS.

livered before the Royal College of Physicians of London on March 11th, 16th, and 18th, 1909,

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LECTURE I.

Delivered on March 11th.

DIMINUTION OF THE BLOOD-SUPPLY TO THE BRAIN.

Syncopal Attacks.

IR. PRESIDENT AND GENTLEMEN,—The fundamental or in the pathology of a fainting fit is a diminution in the ume of blood passing through the brain. Sir William vers suggests that the resulting diminution of the intra- nial pressure may be an important factor in the loss of sciousness. The causes of an attack of fainting are nerous; but we are concerned here, however, with syncopal icks occurring apart from gross organic disease. Such y be precipitated by very different causes, sudden shock, excitement, the sight of a street accident, the sight of od, a hot room, hunger, and so on. Many people are very ne to such attacks and this tendency to faint on slight vocation is apt to run in families.

'hysiologically two important factors are concerned: , vaso-dilatation in the splanchnic area, and secondly diac inhibition. It is probable that in some cases one only these factors is primarily concerned; in others both may nvolved. Some people never faint in the whole of their ; in others one isolated attack occurs; others are very ne to it on slight provocation. It is certain that many ple display an instability of the vaso-motor system apart n any emotional state, although emotion may be, and en is, very potent in that direction.

. Solis Cohen has studied this question.[1] He proposed term vaso-motor ataxia for a "condition of instability [illegible] certain persons, [illegible] disturbance with [illegible] of the cardio- [illegible] most strikingly played by the heart and by the peripheral vessels of the remities, but analogy indicates the occurrence of similar nomena in the ve [illegible] re especially in the [illegible] t, and of the br [illegible] eously, but often [illegible] ong the influence [illegible] ecially cold; toxic agents formed in the body or intro- ed from without; visceral or internal reflex excitation; l emotion." The vascular phenomena include functional rt disturbances, vaso-dilatation, and vaso-constriction. rbid alterations in the thyroid are not uncommon. He ards dermographism as an essential feature of the dition and claims the existence of a hæmorrhagic dency as shown by ecchymoses, petechiæ, epistaxis, noptysis, hæmatemesis, hæmaturia, and retinal hæmor- ge. He enumerates a very large number of allied morbid ociations and among them hysteria, urticaria, local ema, asthma, vertigo, migraine, epilepsy, neurasthenia, rotic dyspepsia, membranous enteritis, &c. Doubtless ny would hesitate to accept Solis Cohen's scheme in its irety, but it does gather together a series of conditions, ny of which are not infrequently found in combination. are familiar with cases presenting irregular circulatory nifestations, such as blue hands, cold extremities, lblains, palpitation, flushings, &c., often associated with graine, neurasthenia, dyspepsia, and so forth. Such individuals are rarely robust and in many of them, moreover, there is a marked tendency to faint on slight provocation. Solis Cohen does not include this in his large list of clinical manifestations, but vaso-motor and cardiac instability are very prominent features in many people of fainting tendencies. Their vascular mechanism is often unable to adjust itself to the slightest strain, as seen in the momentary faintness on getting up from a stooping position.

A sudden depression of the normal vaso-motor tone in the splanchnic area leads to a rapid accumulation of blood in the capacious vessels of that region; if only momentary in duration the result is merely the sudden sinking at the pit of the stomach—so common after any unexpected noise or fright. If of longer duration this preliminary sensation or aura is succeeded by a faint. The rapidity of onset of a faint depends on the nature of the cause and is proportional to the rapidity with which the vaso-motor control of the splanchnic area is lost. Fatigue or a hot room is often associated with a very gradual development of an attack, and doubtless with a slowly increasing splanchnic change. The removal of the cause will often cut short the attack before unconsciousness supervenes. A sudden shock, however, may cause almost sudden unconsciousness; and doubtless very sudden vaso-dilatation can occur. It is difficult to judge as to the degree and frequency with which the heart may be affected independent of the change in the splanchnic area. The feeble pulse is scarcely a criterion to go by in the presence of the fall in blood pressure due to the abdominal vaso-dilatation and of the small volume of blood available for the circulation. It would seem probable, however, that in some cases direct cardiac inhibition does occur. The two factors might also be brought into action simultaneously.

Attacks characterised by Cardiac and Vaso-motor Symptoms with Modification rather than Loss of Consciousness.

Attention has been drawn of late to a type of attack in which vagal and vaso-motor symptoms are prominent and in which consciousness though modified is not of necessity lost. Gowers describes a series of such cases under the title of "Vagal and Vaso-vagal Attacks."[2] The onset is commonly sudden. The salient features are cardiac and vaso-motor with some modification of consciousness in the large majority of cases. There is obvious vaso-constriction of the cutaneous vessels in the majority of cases—as evidenced by pallor of face, coldness of extremities, and tingling. Coldness of the extremities was noted in eight of Gowers's 11 cases. It was present in a marked degree in two of my own. Pricking and numb feelings of hands and feet occur, and are probably also the result of vaso-constriction. They are common in the extremities in gross arterial disease.

The feeling of suffocation and the orthopnœa noticed in several of Gowers's cases are very interesting. Their nature is obscure but it may well be that they are pulmonary in origin. The [illegible] and Brodie[3] [illegible] the systemic [illegible] of blood contained in the pulmonary vessels. These cases exhibit obvious changes both in the cardiac and systemic systems. Vaso-dilatation in the splanchnic area is almost beyond dispute in many of the cases, although we cannot directly inspect the splanchnic vessels. The distribution of blood is disorganised over the whole body and engorgement of the pulmonary vessels is very possible, and in cases in which it occurred would be a feasible explanation of the dyspnœa observed. Bronchial spasm may possibly participate in its causation.

Splanchnic dilatation is suggested directly by the disappearance of the blood from the cutaneous surface, factors of very common concurrence, and also by the copious diuresis following the attack in some cases. Rapid and rather persistent splanchnic vaso-dilatation is evidently a very important factor in these cases.

[illegible] the order of sequence d[illegible] of the vascular area p[illegible] of the vascular crisis. An initial splanchnic vaso-dilatation with lowered blood pressure would clearly explain some cases. A severe initial vaso-constriction, for instance, in the extremities, with rise of blood pressure, may possibly occur in some cases of so-called

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Vaso-motor Ataxia, American Journal of the Medical Sciences, 1894, cvii., p. 130.

[2] The Borderland of Epilepsy, p. 18, et seq.

[3] Lectures on the Pulmonary Circulation, The Lancet, March 22nd, 1902, p. 803.

vaso-motor angina, though James Mackenzie found that the blood pressure was not raised in some cases he had the opportunity of examining in an attack. Sir R. Douglas Powell, in his article on this subject in Allbutt's System of Medicine, notes the same cardio-vascular instability and the same physical and mental relationships. James Mackenzie discusses the subject under the very non-committal title of the x disease.[4] Pal has ably demonstrated the importance of vascular changes in relation to clinical symptoms in an exhaustive monograph.

It is difficult to decide in each case whether the coldness of the skin is due to active vaso-constriction, or whether the skin vessels are merely narrowed down just enough to accommodate the diminished amount of blood available for them.

In some of the cases consciousness has been modified—a dreamy mental state may be present and a feeling of impending death is not uncommon. The extreme weakness of the pulse indicates a vascular depression that must of necessity affect the brain, and we know too little of the nature of mental processes to predict what alteration should attend a diminished blood flow. Momentary loss of consciousness occurs occasionally, as in some of Gowers's cases, and when it occurs he regards it as epileptic in nature—as *petit mal.* The unconsciousness may be an early or a late symptom in the attack and in my opinion simply represents the fact that when it occurs the vascular depression has reached a point incompatible with consciousness. Cerebral vaso-constriction may account for it in some cases, cardiac inhibition with low blood pressure in others. Further, the prolonged symptoms in these cases are often of a type which, if of momentary duration, would be fairly characteristic epileptic auræ. At the same time, as has been pointed out, many of them are obviously vaso-motor or cardiac in origin and that this is recognisable is due to the fact that they are exceedingly deliberate in onset instead of sudden. If they were of slightly shorter duration and of greater intensity the epileptic relationship of these cases would be still clearer. Gowers, of course, recognises that many of these cases present distinctly epileptic phenomena, and remarks also that "velocity is an essential element of ordinary epilepsy, but this does not preclude the possibility of deliberation in attacks not far removed from epilepsy." I have seen four such cases and they are doubtless commoner than is suspected, their somewhat indeterminate character and the absence of symptoms between the attacks rendering them difficult of recognition.

THE SUDDENNESS OF SOME FAINTS.

Whilst the onset of an ordinary faint is gradual, in some cases it is rapid and may be absolutely sudden. A man very subject to ordinary faints on one occasion suffered from a sudden attack; he was sitting down and feeling perfectly well when he fell absolutely suddenly and bruised his face on the ground. Gowers also remarks that those who are prone to faint become after a time liable to do so more suddenly. In such cases there can be no question as to the nature of the attack. The vascular depression responsible for the ordinary faint must have occurred with greater rapidity. The suddenness suggests that a very transient and sudden cardiac inhibition occurred rather than that the attack was due to splanchnic vaso-dilatation. An isolated attack of unconsciousness sometimes with muscular spasm is not an unknown event in people showing no other signs of any tendency to faints or fits. Sudden cardiac inhibition supplies the most likely explanation of these attacks.

THE CONVERSION OF FAINTING FITS INTO EPILEPTIC FITS.

Gowers has recorded cases in which repeated syncopal attacks have passed into epilepsy.[5] Thus:—

> A girl when about seven years old became liable to faint on any sudden start or alarm. The faints had all the character of cardiac syncope; there were pallor, coldness, and gradual loss of consciousness After some years such faints occurred without exciting cause, and became more sudden in onset. When she was 17 years old one of these attacks passed into a distinct epileptic fit, with deviation of the head, general clonic spasm, and micturition during the attack. Others followed.

Gowers quotes two other cases. In all three the same phenomena were presented: attacks originally brought on by external influences and typically syncopal, after a lapse of time appeared spontaneously and with a more sudden onset—in fact, becoming undoubtedly epileptic. The explanation of change that naturally suggests itself is that the incr suddenness of the attacks is due to an increase in the rapi with which the circulatory changes are brought about.

The symptoms of syncope are certainly due to car vascular changes with alteration in the cerebral circulat and an increase in the velocity of change would fully acc for the suddenness of the unconsciousness. Gowers, h ever, postulates a change in the nerve elements of the b as underlying the loss of consciousness in syncope, produ not directly by the failure of the circulation but rather a sudden diminution in the intracranial pressure resul from the circulatory failure. He also states that "we h to conceive it"—i.e., a change in the nerve elements— occurring spontaneously in epilepsy and as due to a sud diminution in the intracranial pressure in syncope," further that these cases in which repeated syncope seem pass into minor epilepsy "suggest that the state of the n elements that underlies the loss of consciousness in sync may, by repeated induction, acquire a tendency to sp taneous development, which constitutes minor epilepsy."

I submit that by frequent repetition the "resistance the nervous mechanism of the cardio-vascular apparat diminished, the reflex becomes easier, and the failure of circulation occurs with greater rapidity, with the result the loss of consciousness is proportionally more sudden. distinction is one of the greatest importance, for the view assumes a suddenly developing, mysterious state of nervous system in which it becomes liable to sudden ca less failures of its activity, causeless in the sense that t are now independent of the circulatory failure admitt producing the earlier attacks, whilst the other view aff an explanation of these attacks more in accordance their clinical history.

So far we have considered, firstly, the ordinary fainting We have seen that definite subjective sensations or a may attend its onset, that it is often associated with v motor instability, that it may be very sudden in onset inst of gradual, and, finally, that it may change in type become distinctly epileptic in character. In other group cases we have seen marked cardiac and vascular instabi with the development of a series of symptoms depend directly on these cardiac and vaso-motor changes. M of these ~~symptoms are identical with epileptic auræ~~ tho more prolonged. We have seen that consciousness ma preserved though modified, that it may almost vanish, a finally, that unconsciousness may develop. In all th cases the pathological variations in the circulation are s as to fully account for the unconsciousness and for epileptic character of some of them.

The phenomena attending a sudden transient and dem strable arrest of the heart should afford valuable evidenc regards the influence of sudden cerebral anæmia in the p duction of symptoms These phenomena can be studied cases of heart block.

CESSATION OF THE CEREBRAL CIRCULATION.—SUDDE AND TRANSIENT.

(*a*) *Heart Block.*

Alfred Webster[6] records a case accompanied by a se of 60 beautiful sphygmographic tracings which estab beyond question the fact that arrest of the heart prece the epileptiform attacks. Another most instructive case recorded by Finny.[7] The patient was a woman, aged years, who suffered from bradycardia and arryhthmia of heart. Without entering into any details as to the car condition it may be stated that the pulse rate was, as a r between 21 and 28 per minute. At varying intervals, h ever, the rate changed and a state of pulselessness las from five to 15 seconds supervened. During these la periods certain fits, or, as she described them, "weak tur developed. Frequent observations determined the fact the fits were sure to occur when pauses of eight to 10 o seconds were observed, and that they occurred towards end of the period of cardiac asystole. Finny gives following description of the fits:—

> A "weak turn" was ushered in and preceded by a delay in heart's beat and radial pulse. Thus, when a pause lasted seven to

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[4] Diseases of the Heart, 1908, p. 56.

[5] The Borderland of Epilepsy, 1907, pp. 8 and 9.

[6] C[illegible] to Cerebral Anæmia and Epil[illegible] form [illegible] Rep[illegible]rts, 1901, vol. iii., p. 413.

[7] E[illegible] and Epileptiform Seizures, Brit. Med. Jour., 1906, vol. i., p. 1112.

hibitory powers can be obtained. This method has been lopted in the following experiments and the encouraging sults that it has yielded have induced me to publish this reliminary account of observations on tuberculosis in the ope that it may attract other workers to contribute the rge number of results that will be necessary before what romises to be a new chapter in pathology can be established n a firm basis. The method used for estimating the elec-ical conductivity of the solutions was that of Kolrausch ith the rapidly alternating current and telephone.

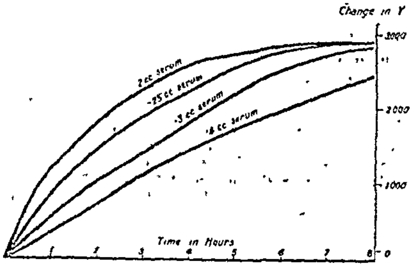
The vessels used were after the pattern of those of Henri, aving a capacity of 15 cubic centimetres. To permit of ady cleansing it is important that they should be wide-outhed and stoppered to prevent evaporation. The resist-nce capacity of the vessels was redetermined at intervals ith $\frac{n}{10}$ KCl and the electrodes replatinised from time to me. The digestion took place in a thermostat kept at 4° C. The substrate used was 2·5 per cent. solution f sodium caseinogenate to which ammonia was added the proportion of 1 cubic centimetre of 0·880 mmonia to a litre of the casein solution. Although ot more than 0·2 cubic centimetre of serum is required or a determination, it has been the practice in these xperiments to use much larger quantities in order, as ar as possible, to eliminate errors due to the measurement f very small quantities. It is possible to obtain without [illegible] of blood from a puncture in [illegible] int of a cataract knife, but the [illegible] gated have been bled by punc-[illegible] with a small sterilised syringe. [illegible] gainst this procedure is quite nwarranted. I have personally experienced it about 200 imes without the smallest inconvenience or appearance of carring or thickening over the median basilic. It is perfectly ainless when properly done with a sharp needle, and atients generally prefer it to withdrawing blood by rdinary puncture of the finger as being more rapid and ss uncomfortable. If the skin is first sterilised and the atient requested to look in another direction the whole peration is conducted without any trouble; the application f dressing afterwards is unnecessary and alarming. It is [illegible] seconds after [illegible] of blood. [illegible] a firm clot has [illegible] kept in an ice chest. There is some evidence [illegible] serum left in contact with the [illegible] probably from the setting free [illegible] es by the disintegrating leuco-ytes. I have been unable to find any evidence of diminu-ion of antitryptic activity in aseptic serum kept in the cold or many days. As a convenient unit of conductivity the eciprocal megohm or gemmho, as introduced by Waller, nay be used. Asepticity is secured by the presence of ormalin, 5 cubic centimetres of 5 per cent. formol being dded to every litre of the stock casein solution. The ormalin itself has a slight inhibitory action on tryptic ctivity.

In an actual experiment the following technique was bserved. The conductivity vessels each received 10 cubic entimetres of casein solution and to this the serum was dded. The serum and substrate were now allowed to [illegible] mostat and an appropriate [illegible] The trypsin degenerates [illegible] olution that it was deemed xpedient to always add the measured pipetteful of trypsin in he cold state, as in the measuring of the ferment into a [illegible] for an appre-[illegible] state to take [illegible] ten minutes efore the first reading of [illegible] lummy experiments having [illegible] oom temperature equal to [illegible] dded to the casein-charged vessel took 7·5 minutes to each the mean temperature of the thermostat. The eadings were afterwards made at regular intervals of 15 ninutes. Duplicate vessels were used, so that in every case he mean of two readings was obtained. A point to which [illegible] the agitation of each vessel while [illegible] g run in from the pipette, other-[illegible] obtained which can be accounted or by the possible combination of enzyme and casein [illegible]

[illegible] was only determined upon after a series of [illegible] the two enzymes which reveale[illegible] ction of serum [illegible] a pro-gressive loss of inhibitory power [illegible] out the course of the reaction is one that has to be considered. Bayliss showed that when sufficient serum was added to a trypsin solution to completely prevent its attacking the caseinogen for at least two days, the caseinogen is slowly [illegible] may become a straight line with an [illegible] that the antitryptic [illegible], as had been pre-viously shown to be the case by [illegible] for the antitrypsin of intestinal worms. Using the small quantities of serum that [illegible] found evidence [illegible] serum which has been first mixed with trypsin and [illegible] n added to the caseinogen solution curves have occasionally occurred resembling those described by Bayliss. As such curves are not obtained when the serum is first diluted by mixing with the casein, and the trypsin is then added to the casein and serum mixture and the whole shaken, it would appear that we have to deal with a condition of absorption of the trypsin by the serum, which is then slowly liberated, and that this phenomenon does not tend to occur in cases in which the serum is already diluted. The question does not, at any rate, arise in connexion with the small quantities of serum used.

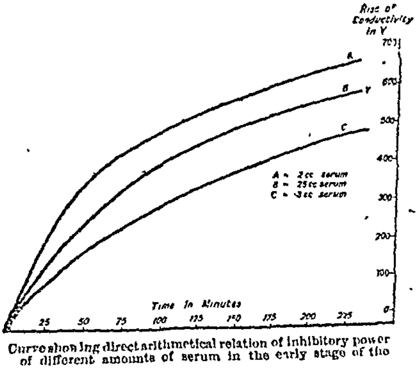
The curves obtained, as shown in Fig. 1, representing the quantity of casein converted and time, fall off continuously throughout the experiment from the logarithmic curve, the velocity constant decreasing in value as the end-point is approached. The form of the curve which tends to become

FIG. 1.



Curve showing rise of conductivity in the casein-trypsin digest after the addition of varying amounts of serum. The vertical figures show the change in gemmhos (or reciprocal megohms) γ.

FIG. 2.



Curve showing direct arithmetical relation of inhibitory power of different amounts of serum in the early stage of the reaction.

attack only lasted two days but in the act of vomiting and retching he felt "something suddenly give way in the chest. Shortly afterwards pain was felt in the left chest and his breathing became difficult." In consequence of this he gave up his appointment in America and coming to London he became an in-patient of Charing Cross Hospital. With rest and treatment he recovered sufficiently to be able to take up work again, and he continued working for a period of 15 months. At the end of this period as he was not feeling well he took a rest for six weeks, when he was again able to resume his duties which he discharged for six months.

When the patient came under my care he was the subject of difficulty of breathing of an intermittent character which was always worst at night. The arterial tension as estimated by the Riva-Rocci apparatus was equal to 180 millimetres of mercury. The radial pulse, which was rapid and irregular, was equal on both sides. Cardiac dulness commenced in the line of the left nipple and was carried to the right border of the sternum. Over the base of the heart the second sound was accentuated, while over the apex area the first sound was murmurish, feeble, and often indistinct. No apex beat could be felt. Owing to the difficulty of breathing the patient, especially at night, frequently occupied the semi-upright position. Beyond the signs of slight pulmonary emphysema and the presence of a certain amount of dulness over the base of the left chest posteriorly and in the axillary region nothing abnormal was detected on percussion. The respiratory murmur was coarse over the upper part of each lung, while over each base crepitation was heard. The urine had a specific gravity of 1025 and 22 ounces were passed daily; it contained a large quantity of albumin. The abdomen presented nothing abnormal. There was no œdema of the feet. The attacks of difficulty of breathing were relieved by inhalations of nitrite of amyl.

Three weeks after his admission into the infirmary the patient began to spit up blood apparently from the left lung. The breathing became Cheyne-Stokes in character, the periods of apnœa lasting frequently from 40 to 60 seconds. [illegible] ix ounces daily and contained blood. Five [illegible] sodium acetate were administered every [illegible] hours and within 12 hours the urine rose to 84 ounces [illegible] the following day to 96 ounces. For several nights [illegible] patient slept better; he seemed much improved and the bleeding from the lungs and the kidneys entirely ceased. The improvement only lasted a short while, for the patient was suddenly seized with acute pain over the right side of the chest. Over the affected area friction could be heard. The dulness over the base of the left lung increased and the respiratory murmur became almost inaudible. By degrees the quantity of urine diminished, the breathing became again difficult, and the pulse and the heart sounds feebler. The patient died exactly one month after his admission into the infirmary.

For the following notes of the post-mortem examination I am indebted to Dr. George Hall, pathologist to the Royal Victoria Infirmary:—

There is no œdema of the extremities. The pericardium contains a small quantity of free fluid. The left pleural cavity contains about two pints of fluid, in consequence of which the lower lobe of the lung [illegible] chest shows signs of recent pleurisy. In [illegible] mentioned the lungs are œdematous at the [illegible] are emphysematous. The heart is large. The p[illegible] ventricle is thickened. The mitral [illegible] its cusps are normal. The cavity [illegible] and its walls considerably thicke[illegible] several fatty and atheromatous patches, between which are interspersed calcareous plates About one inch above the valve, the cusps of which are healthy, there is a well defined aneurysmal dilatation of the vessel which extends almost to the origin of the left carotid and subclavian arteries, while beyond this there is at the commencement of the descending aorta a fusiform dilatation of the vessel. The main aneurysm which is saccular has a definite daughter saccule nearly the size of a golf ball springing from its anterior surface and pointing forwards. The dilatation of the aorta extends to the root of the innominate artery but not into the vessels arising from it. The interior of the aneurysm is occupied by firm decolourised clot but this does not extend *into the innominate artery to block it. At places the* [illegible] the wall of the aorta. A careful examination [illegible] to detect any involvement of nerves in [illegible] orifice admits the tips of five fingers. The pulmonary artery and valves are healthy. Liver and spleen [illegible] The right is small and contains a [illegible] le on being stripped off leaves a [illegible] the cortex is thin and pale and shows similar changes to those [illegible] described as pale contracting kidneys.

Whatever may be our opinion in regard to the gr[illegible] thoracic aneurysm it is within the experience of physi that patients who are the subjects of this affection ma only live a considerable time after their malady has detected but that even alarming and distressing [illegible] may temporarily subside or even entirely disappear. I does not always come by rupture of the sac, threate at times as this may seem. Where improvement has t place for a period and the patient has subsequ succumbed to an intercurrent malady, the aneurysm a necropsy is frequently found to have been undergoi process of cure, nature's method of accomplishing being the strengthening of the walls of the sac by internal deposition of layer after layer of clot which dimini the shock imparted to the sac by each systole of the ventricle. While such a deposition of fibrin occur aneurysms situated at some distance from the heart occasionally leads to spontaneous cure it is maintaine some pathologists that the conditions of quietude, low arterial tension, and slowing of the circulation, which essential to the formation of clot within an aneurysmal are almost impossible when the aneurysm is near the he for example, on the ascending portion of the arch of aorta. Notwithstanding all these it is yet a fact that large number of cases of thoracic aneurysm, espec of the sacculated type, clot is found in the inte indicating an effort on the part of nature to establi cure.

The presence or absence of coexisting aortic regurgita is not without importance in regard to the depositio fibrin in thoracic aneurysm. If there is aortic incompet of any severity there can hardly be in the interior thoracic aneurysmal sac the same favourable condition clotting likely to appertain where there is no a reflux, for in uncomplicated cases of thoracic aneur the left ventricle of the heart is usually not hy trophied to any extent, if at all, while it is enlarged aortic regurgitation. The fact that patients occasion live for several years after their thoracic aneurysm been detected can only be explained by the prese of the firm clot in the interior of the sac observed a death.

A few of my own pati[illegible] aneurysm lived seven or eig[illegible] case longer, after first coming [illegible], others several months, notwithstanding recurrent and co hæmorrhages. As bearing upon this question of longe of patients suffering from thoracic aneurysm and their being disqualified for work which necessitated conside strain, I cannot do better than quote the case of Dr. Ge A. Gibson of Edinburgh alluded to by the late Sir Wil T. Gairdner in Allbutt's System of Medicine.[1] The pa was a man, aged 39 years, a lamp-lighter by occupation, lived for 12 years after his aneurysm was detected and during that period frequently "undertook the duties of keeper of one of the Edinburgh monuments which inv his ascending sometimes 50 times a day to a height of al 200 feet."

Although it is by the deposition of clot within the sac the further development of aneurysm is checked and physical signs of the tumour as well as the symptoms ca by it become altered in character there are, it need be mentioned, different kinds of clot to be considered in relationship. Cure can only take place through org[illegible] *of the clot. This occurred so completely in the* [illegible] whose case is the subject of these notes that although a aneurysm of the thoracic aorta was found after death it consolidated and its clot so thoroughly organised that it rise to no symptoms, it had apparently ceased to and in no way contributed to the fatal [illegible] On microscopical examination of sections of the ane the outer part of the clot is observed to have transformed into dense layers of fibrous tissue. Orga has completely taken place. Numerous large [illegible] shaped fibroblasts can be seen in the outer half thrombus. The altered layers of fibrin are observed becoming encroached upon by new capillaries and [illegible] tion tissue cells.

Newcastle upon-Tyne.

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[1] Vol. vi., p. 411.

A CASE OF

PUTATION THROUGH THE HIP-JOINT N WHICH THE HÆMORRHAGE WAS CONTROLLED BY INTRAPERITONEAL COMPRESSION OF THE COMMON ILIAC ARTERY.

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E patient, a girl, aged 13 years, was admitted to the l Free Hospital on Nov. 19th, 1908, having sustained a ared femur through falling from a tram-car. At the it was thought that the fracture was an ordinary one. matter of routine a skiagram was taken. It was then l that there was a very oblique fracture of the upper of the femur. Extending from the base of the great anter, about five inches down the shaft, the line of ure passed through an oval area, which was much less than the rest of the bone. On inquiring more ly into the nature of the accident it was found that girl had slipped from one step to the next one and suddenly sat down on the upper step. The amount iolence was clearly insufficient to break a normal r. It was obvious that we had to deal with a ntaneous" fracture passing through some kind of new th. It was therefore decided to cut down upon the ure and to investigate the lesion. Consent to perform mputation, should it be necessary, was obtained from arents.

Nov. 27th an incision was made from the great anter extending seven or eight inches down the outer of the thigh. The fracture was found to pass through panded portion of the femur dividing it into an anterior a posterior portion. The fractured part of the femur ollowed out into a cavity extending up into the base of great trochanter; it was apparently filled with it blood clot; on cleaning it out I removed a small of "growth" of the size of a date from the upper end ie cavity. This was subjected to rapid microscopic ination and was reported to be probably sarcomatous ot of the myeloid variety. I then decided to amputate e hip-joint. The common femoral artery and vein were through a separate incision opposite Poupart's ligament. st this was being done my colleague, Mr. T. P. Legg, ed the abdomen in the manner described below and made al pressure on the common iliac artery. The exploratory ion was then converted into a racquet-shaped incision cling the thigh at the junction of the upper and lle thirds. The skin flaps thus formed were re-ed for nearly half their length, and the muscles on anterior and outer aspect were severed as they into view; the head of the femur was disarticulated the posterior muscles were divided from within outwards. rteries spurted and the blood lost was apparently only which belonged to the limb below the site of amputa- There was a moderate degree of shock. This would ably have been less marked had not the assistant who been told off to do intravenous saline infusion experi-d great difficulty in finding a suitable vein. The patient e an excellent recovery.

e following report of the specimen removed and of its oscopic characters is kindly furnished by Miss Chambers, . Lond., clinical pathologist to the hospital:—

the femur causing
the shaft. It com-
anter and causes a
ere is a very oblique
quarters of an inch
ix inches below at the
nterior and posterior
The cavity of the cyst

inches in width at the wid
of hard bone one-eight
were softened by invas
empty. Its inner su
n layer of soft tissue
the base of the great troc
ediately surrounding the
inous This layer is thin and in places is only one-quarter of an
er end of the fracture
does not extend com-
line of fracture. The

periosteum can be easily stripped from the bone. The head of the femur and the lower part of the shaft are normal.

similar myxomatous struc
explained either by (1) ca
ing myxo-sarcoma arising
scraped from the inner w
structure like that found o
The macroscopic evidence—
line of fracture, the fact that it is most marked where most movement has occurred—i e., at the lower end—that it is elsewhere comparatively slight, the lack of softening of the bone and taking into

cystic distension of the shaft.

The Control of Hæmorrhage in Severe Operations about the Hip.—In May, 1898, Mr. W. H. Battle (at that time one of my colleagues at the Royal Free Hospital) asked me to see a case of traumatic gluteal aneurysm. I suggested that the internal iliac artery should be compressed by the finger introduced through a small abdominal wound whilst the aneurysm was being dealt with. I did this whilst Mr. Battle operated and was able to control the bleeding most effectually. The case is published in the *British Medical Journal* of Nov. 5th, 1898. No further opportunity of trying this method occurred until last September, when I compressed the common iliac whilst my colleague Mr. Legg amputated at the hip-joint for sarcoma of the femur. The amount of blood lost was trivial.[1]

On referring to the literature of the subject I find that McBurney[2] was the first to describe the method. It has also been used by Raymond Johnson[3] in a case of aneurysm in the groin. With the exception of a scanty reference in Jacobson's "Operations," I find no mention of the method in the British text-books in common use. I therefore infer that the method is not so well known as it deserves to be.

The incision should be through the outer third of the sheath of the rectus, the muscle being displaced inwards; a clip may be placed on the deep epigastric artery to control any collateral circulation from the internal mammary. The incision through the posterior sheath and peritoneum should be just large enough to admit two fingers comfortably. The index and middle fingers are introduced and placed on the common iliac artery in such a way that the tip of the longer middle finger reaches just beyond the vessel, whilst the tip of the shorter index finger just reaches to the middle of it. In this manner the artery is safely pinned against the vertebral column and cannot slip away. The pressure of the fingers may be reinforced by the disengaged hand laid outside the abdominal wall. At the end of the operation the wound is sutured in the usual manner. By this method every vessel severed in amputation at the hip-joint can be absolutely and certainly controlled without in the least degree interfering with the freedom of the operator. In these respects I believe it is far superior to every other method. The only objections that can be urged against it are the slight additional risk of opening the peritoneum and the necessity for one more competent assistant.

Queen Anne-street, W.

THE USE OF INTRAPERITONEAL COMPRESSION OF THE COMMON ILIAC ARTERY DURING AMPUTATION THROUGH THE HIP-JOINT.

BY T. P. LEGG, M.B., M.S. LOND., F.R.C.S. ENG.,
SURGEON TO THE ROYAL FREE HOSPITAL, GRAY'S INN-ROAD, LONDON, W.C.

A YOUTH, aged 16 years, was admitted to the Royal Free Hospital on Sept. 21st, 1908, suffering from a large swelling in the lower part of the left thigh. Three months previously he had been struck by a piece of wood just above the knee-joint. At the time nothing abnormal was observed, but a month later a hard swelling was noticed on the anterior surface of the left thigh. It rapidly increased in size during the succeeding fortnight and he became unable to walk or to bend his knee. On examination a large tumour involving the e circumference of the left femur in its lower half was l. The tumour had the usual characteristics of a steal sarcoma and this diagnosis was confirmed by a ram. The limb below the knee was œdematous and a small range of movement was possible in the joint. e was no evidence of secondary deposits in the lungs, he inguinal lymphatic glands were enlarged.

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[1] See report of Mr. Legg's case on this page.
[2] Annals of Surgery, 1894, vol ii, p. 181.
[3] Transactions of the Clinical Society of London, vol. xxxi, p. 283.

nputation through the hip-joint was performed on 30th. The femoral artery and vein were ligatured in places at Poupart's ligament and the vessels were ed between the ligatures. While this was being done, olleague, Mr. E. W. Roughton, opened the abdomen gh a short incision just inside the left linea semilunaris, luring the remainder of the operation compressed the non iliac artery. The amputation was done through the ior racquet incision, the handle of the racquet being ed in part by the vertical incision through which the al vessels had been exposed and ligatured. The flaps sted of skin and subcutaneous tissues, the muscles cut as short as possible. The amount of blood lost quite small and very little shock followed the operation. rtunately the wound became infected and a portion of ap sloughed; the abdominal incision healed by primary . From the pus in the stump a pure culture of rium coli commune was obtained. The patient left the tal on Nov. 23rd, only a small sinus remaining in the p.

examining the specimen the muscles were found to be nsively infiltrated by a soft white growth which on oscopic examination proved to be a spindle-celled ma. The glands did not contain any growth.

reason for publishing this case is to bring forward a od of controlling the hæmorrhage by compression of the non iliac artery through an abdominal incision during performance of an amputation through the hip-joint. method is both simple and efficacious, but it is not rently so well known as it deserves to be, and it was my ague, Mr. Roughton, who suggested its use to me. It is a new method, for an account of its employment in ar cases will be found in a paper by McBurney in the *ls of Surgery* for August, 1894. The ordinary texts on operative surgery do not contain any reference to nd in the last edition of Jacobson and Rowlands's erations of Surgery" it is referred to in a line and a half ll print. When amputation through the hip-joint is done [illegible] the muscles should be cut as [illegible] tachments; this is impossible [illegible] th's method, or a tourniquet [illegible] rhage. During the division ne muscles, large branches from the obturator, sciatic, gluteal arteries are severed, and by compressing the non iliac artery the hæmorrhage from these vessels can ompletely controlled, and as the loss of blood is one of most important causes of the shock which follows the ation, this important factor can be eliminated. More-, by relaxing the compression of the common iliac artery time to time whilst the divided vessels are being picked y the pressure forceps, it is easy to see the exact spots e to apply the forceps, thus rendering the applica- of the ligatures quite simple and reducing the unt of hæmorrhage during this part of the opera- to a minimum. If the common iliac artery is iently controlled, the common femoral need not be liga-d before it is divided; but as this vessel and the corre-ding vein have to be tied it is perhaps better to ligature n both at the commencement of the operation. It is aps needless to point out that the common femoral vein ld be tied or held by forceps before it is divided. To press the common iliac artery the abdomen should be ned just inside the linea semilunaris, and the rectus cle is displaced inwards. The incision need only be t three inches in length, and placed so that its centre st below the level of the umbilicus; the peritoneum is ded so as to permit the insertion of a couple of fingers. intestines are displaced to one side and the artery is for on the fifth lumbar vertebra, against which it is pressed by the palmar surfaces of the last phalanges of first and second fingers. No great amount of force is uired to completely arrest the circulation, and con-nently no ill effects will follow. If a competent assistant t hand he can open the abdomen whilst the surgeon is ng the common femoral vessels and close it whilst the flaps of the stump are being sutured. If such cannot be obtained the length of time of the whole operation will be slightly prolonged—viz., by so much time takes to open and close the abdomen. The amount of shoc is not appreciably increased by this procedure, and in thes days there should be no danger of peritonitis, so that th method deserves to be more widely employed.

It is interesting to notice that in the case here recorded although the amputation wound became infected, the abdominal incision healed by primary union.

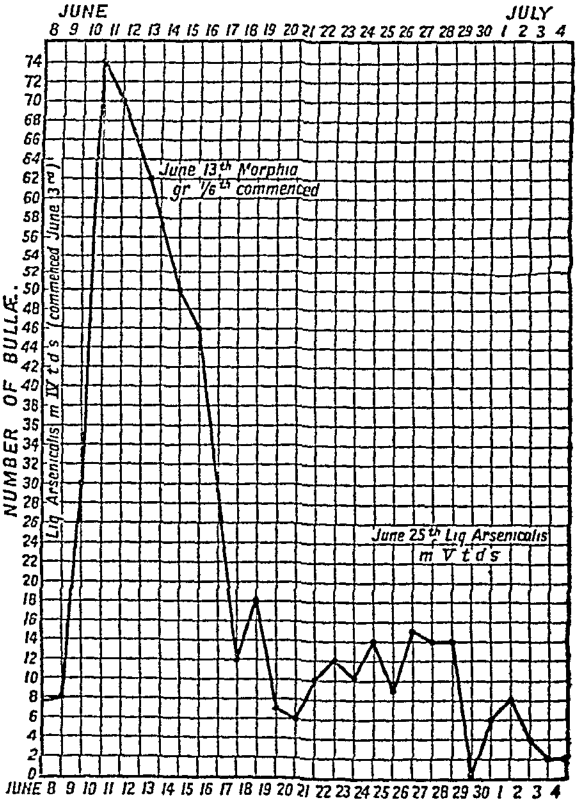
Harley-street, W.

NOTES ON A CASE OF PEMPHIGUS IN NONAGENARIAN; RECOVERY.

BY THE LATE JAMES GREY GLOVER, M.D. EDIN.

[THE following case appears worthy of record on accoun of the great age of the patient and of the remarkable effec produced by the exhibition of morphine after the apparen failure of arsenic. We are indebted to Dr. Alison Glover fo sending us his father's manuscript.]

The patient, aged 90 years, had had a very strenuous an healthy life. During the last five or six years he had ha occasional severe attacks of epistaxis necessitating pluggin of the nostrils and he had "aged" rather rapidly. Som 18 months before I saw him eczematous patches appeare on the left arm and left leg, and in October, 1907 bullæ were first observed. For nearly six months the bleb were confined to the exterior aspect of the left forearm an to the outer side of the left thigh and appeared only once or twice a week. *The patient was otherwise well, the pulse* being regular and remarkably constant at 72 per minute. Since the skin trouble commenced there had been no epistaxis. The urine throughout had been free from sugar and albumin and contained a good percentage—2·3—of urea. In May, 1908, the bullæ on the right arm became more frequent and the patient was given gradually increasing doses of arsenic—one minim of Fowler's solution on May 7th, two minims on the 28th, and three minims on the 30th—three *times a day.* On June 1st the itching became very severe and the patient had no sleep. On the 3rd the arsenic was increased to four



The vertical figures show the number of bullæ upon the dates which are indicated above and below.

minims three times a day, with some improvement. On the 8th there were 13 new bullæ, the scrotum and thighs being the worst parts. On the 9th 30 fresh bullæ were counted and the itching during the night was terrible. On the 10th 74 fresh bullæ appeared, chiefly on the arms, the axillæ, the thighs, the scrotum, and the legs. They were almost confluent. On the 11th 70 new bullæ appeared. On the 12th the patient had a restless night in spite of the administration of [illegible] there is no record of [illegible] next two days, it being almost impossible to count. On the 13th, after having no sleep all night, the patient was ordered one-sixth of a grain of morphine. On the 14th the patient, having had an excellent night, the new bullæ numbered 50, and were flaccid rather than tense, usually a bad sign. On the 15th, after a bad night, they numbered 47, and another one-sixth of a grain of morphine was ordered. On the 16th the new bullæ were "much fewer." On the 17th they numbered 11, on the 18th 16, and on the 19th eight, one-sixth of a grain of morphine being given by the mouth each night. On the 25th the dose of Fowler's solution was increased to five minims three times a day, the irritation being still very great. For the next three weeks bullæ appeared on an average of three or four a day, gradually diminishing until on July 15th the patient had four consecutive nights without any fresh bullæ, then a few nights with single bullæ, and then an almost complete cessation. With very short intervals the arsenic was continued. There was great dryness of the skin and some exfoliation, but otherwise the skin recovered wonderfully. The condition of the patient, however, remained at a much lower level than before the illness, which has naturally "aged" him a great deal.

The case well bears out Hutchinson's dictum that it is precisely in senile subjects that exceptional features occur, and that arsenic is every now and then found to fail. The prognosis in aged subjects is always grave, and I can find no recorded case in which the age exceeded 71 years, which makes a recovery at the age of 90 years very remarkable. Other points of interest in the case are the previous history of epistaxis and the complete failure of all local measures to arrest the disease or to allay the frightful irritation.

JUXTA-EPIPHYSEAL INFLAMMATION OF THE UPPER END OF THE HUMERUS.

BY ARTHUR F. MESSITER, M.R.C.S. ENG., L.R.C.P. LOND.

A DAY or two after a fall from a chair, a boy, two and a half years old, was found to be feverish and suffering from a painful and swollen shoulder. When I saw him 12 days after the commencement of his illness he was evidently in a very critical condition, and on opening a large abscess under the deltoid I found that the shaft of the humerus was separated from the upper epiphysis and divested of periosteum for an inch or more; the bare surface of the epiphysis was smooth and cartilaginous. Some months afterwards a piece of bone of the size of a finger-nail was extruded and the opening then quite healed up. An interesting feature is that there is absolutely no shortening due to arrest of growth, and the arm is practically as good as the other. A skiagram taken five years afterwards shows the shaft and epiphysis reunited, the space occupied by the conjugal cartilage being clearly seen. *The growth of the* shaft since its separation is shown by a bend in it, evidently caused by a slightly faulty "setting" of the shaft with the epiphysis owing to the tilting of the latter by the spinati muscles. This angular union is commemorated by the bend being maintained in the shaft as it grew from the epiphyseal cartilage. The bend has receded from the cartilage three inches in five years. This case is a good illustration of the fact that in juxta-epiphyseal ostitis the inflammatory products do not gain access to the shoulder-joint, owing to the attachment of the periosteum to the conjugal cartilage, a fact which, I presume, is recognised at the present time, but was certainly not generally taught a few years ago, for in the 1897 edition of a well-known standard text-book I find the statement that "as the inner part of the epiphyseal cartilage is just within the capsule the pus in suppurative epiphysitis will find its way into the joint."

Mr. Charles White of Manchester in 1769 read a paper before the Royal Society, entitled "An Account of a Case in which the Upper Head of the Os Humeri was Sawn Off, a Large Portion of the Bone afterwards Exfoliated and yet the Intire Motion of the Limb was Preserved." This case is well known to all students of surgical history and has up to the present time, so far as I am aware, been admitted to be a sound basis for the claim of Charles White to be the pioneer in the matter of excision of diseased joints. This paper, illustrated by a plate, was subsequently printed in his "Cases in Surgery," a copy of which is in my possession. "Edmund Pollitt, aged 14, was admitted into the Manchester Infirmary, April 6th, 1768. He had been suddenly seized, about a fortnight before, with a violent inflammation in his left shoulder, which terminated in a large abscess which was opened with a lancet a few days before his admission. The orifice was situated near the axilla, upon the lower edge of the pectoralis major, and through it I could distinctly feel the head of the os humeri totally divested of its bursal ligament. The matter which was very offensive and in great quantity had made its way down to the middle of the humerus and had likewise burst out at another orifice just below the processus acromion, through which the head of the os humeri might easily be seen. The whole arm and hand were swelled to twice their natural size and were entirely useless to him. He suffered much pain, and the absorption of matter had brought on hectic symptoms, such as night sweats, diarrhœa, quick pulse, and loss of appetite which had extremely emaciated him. ...... On the fourteenth of the same month I began my incision at that orifice which was situated just below the processus acromion and carried it down to the middle of the humerus, by which all the subjacent bone was brought into view. I then took hold of the patient's elbow and easily forced the upper head of the humerus out *of its socket* and *brought it so entirely* out of the wound that I readily grasped the whole head in my left hand and held it there till I had sawn it off. ...... In about five or six weeks I perceived the part from which the bone had been taken had acquired a considerable degree of firmness, and he was able to lift a pretty large weight in his hand. At the end of two months I found that a large piece of the whole substance of the bone that had been denuded by the matter was now ready to separate from the sound and with a pair of forceps I easily removed it. After this exfoliation the wound healed very fast, and on August 15th he was discharged perfectly cured. On comparing this arm with the other it is not quite an inch shorter; he has the perfect use of it and can not only elevate his arm to any height but can likewise perform the rotatory movements as well as ever. The figure of the arm is in no ways altered and from the use he has of it and its appearance to the eye and touch I think I may safely say the head, neck, and part of the body of the os humeri are actually regenerated ...... the osseous matter could not proceed from the scapula, the glenoid cavity of that bone not being divested of its cartilage."

I submit that this was not a case of excision of the head of the humerus but the removal of the upper part of the shaft, that the head of the bor [illegible] cavity, and that the cartilag [illegible] epiphysis tilted upwards and [illegible] glenoid cavity. Indeed, Fig. [illegible] is obviously not the head of the humerus but the upper *carious end of the shaft*, and his necessarily implied suggestion that the whole of the epiphysis became carious and [illegible] in three weeks [illegible] glenoid cavity [illegible] Poland, in his [illegible]tes cases which show that it is the rule for the joint not to be opened in separation of this epiphysis unless unusual violence has been applied, and he mentions one case (p. 182) which is so apposite to my present argument that I reproduce his quotation: "M. Guéretin *has reported an instance* in which the wound was caused by the lower fragment piercing through the deltoid and integuments. The purulent discharge from this wound was enormous. Amputation was performed on the forty-ninth day and death ensued on the sixty-third. It is remarkable that the amputation was intended to be and was supposed to have been done through the joint, but at the autopsy the head of the bone was found in place; its end was hollowed out to the depth of about one-third of an inch, and this concave surface had been mistaken for the glenoid cavity."

Epworth.

GRADUATED REST IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

BY EDWARD E. PREST, M.A., M.D. CANTAB.,
MEDICAL SUPERINTENDENT OF THE AYRSHIRE SANATORIUM.

I AM well aware that in choosing the above title I lay myself open to a charge of pedantry, nevertheless the title was chosen after very careful consideration in order to make conspicuous the paramount importance of rest in the treatment of pulmonary tuberculosis. Graduated rest may be the same thing as graduated exercise or graduated labour, and yet there is a difference in the emphasis. In the one case the rest and in the other the exercise is hidden in the common term "graduated," but the rest factor has been in the past, I think, far too much obscured.

It is well to remember before going on to a consideration of this subject that a considerable number (though doubtless a small percentage of the whole) of persons suffering from developed tuberculosis of the lungs make a good recovery without any treatment worth mentioning. These cases must be remembered before ascribing cures to any given method of treatment, and in the consideration of treatment the cases should not be carefully selected.

It may be as well to observe at the outset that even in the most slackly conducted sanatoriums a certain measure of rest has always been enforced, and this, which was probably the determining factor in any good results which were obtained, has too often been placed in the background, and methods of treatment the only distinction of which is their extremeness have often received the credit.

It will be well before proceeding further to consider how persons suffering from consumption were treated before sanatoriums with their much improved, though often faulty, methods were introduced. In order to illustrate what I mean I cannot do better than quote a portion of a lecture delivered by Professor Niemeyer of Tubingen[1] at least so [illegible] ago as 1866. He makes the following observations in [illegible] of other remarks on treatment:—

> [illegible] first case strict measures are as a rule considered useless and [illegible]forcement unnecessary. The patient is allowed to follow his [illegible] until the rising pyrexia and the increasing debility force [illegible] to remain at home, or until hæmoptysis, pleuritic pains, the appearance of dulness over the chest urgently demand that the supposed "secondary" pneumonia and pleuritic processes be submitted at least to a symptomatic treatment. It will not be said that I exaggerate, let us be sincere! Is not this "*laisser aller*" practice founded on reasoning of everyday occurrence with regard to the affection under discussion? It is seldom that a medical man reproaches himself for having by his carelessness been guilty of the developments of a phthisis florida (galloping consumption). ...... It is true, even in case the physician should have fully recognised the nature of the disease, he will not be able to cut it short at once, but still he has every reason to give the strictest orders, he must do everything in his power to protect the patient from injurious influences; and to place him under such conditions as may be expected to put a stop to the further ext[illegible] termination in cheesy [illegible]
> ...... Let anyone mak[illegible]

Anyone who will take the trouble to enforce this method of treatment will speedily be convinced of the soundness of the above observations.

There is no doubt that improvements in the methods of diagnosis have provided cases for treatment which a few years ago would not have been regarded seriously; some of these, doubtless, never got worse. Those chiefly referred to here are distinguished by the occurrence of an initial hæmoptysis, or an initial pleurisy: two conditions fortunately recognisable without much difficulty. A few years ago pleurisy was not treated differently from acute pneumonia or influenza, its possible or probable ultimate development was not realised, and persons suffering from even a considerable hæmorrhage were not treated for any length of time; carelessness was no doubt partly attributable to the num of cases which never relapsed.

The following tables show the manner of incidenc tuberculosis occurring in 225 men and 73 women, collec by me from the records of the Hospital for Consumption Diseases of the Chest, Brompton. The duration of t between the occurrence of the initial symptoms and th admission to hospital is given in order to indicate the aver relative acuteness of the process.

TABLE I.—*Showing the Manner of Incidence of Tubercul occurring in 225 Men.*

Symptoms.	Cases.	Percentage.	Average duration before admission.	Extremes duration before admissio
Cough	77	34·2	21 months	—
Hæmoptysis	42	18·6	34 "	Longest years. Shortest th months.
Pleurisy	41	18·2	52 "	Longest years. Shortest th months.
Miscellaneous, including loss of flesh, weakness, dyspepsia, and dyspnœa	31	13·7	15 "	—
Influenza and catarrh associated with fever	18	8·0	15 "	—
Laryngeal...	8	3·5	16 "	—
Commencing like an acute pneumonia ...	8	3·5	22 "	—

TABLE II.—*Showing the Manner of Incidence of Tubercul occurring in 73 Women.*

Symptoms.	Cases.	Percentage.	Average duration before admission.	Extremes duration before admission
Cough	24	32·8	26 months	—
Hæmoptysis	15	20·0	33·7 "	Longest years. Shortest months.
Pleurisy	19	26·0	47·8 "	Longest years. Shortest months.
Miscellaneous, including loss of flesh, weakness, dyspepsia, and dyspnœa	4	5·5	22 "	—
Influenza and catarrh associated with fever	3	4·1	8 "	—
Commencing like an acute pneumonia ...	2	2·7	8·5 "	—
Associated with pregnancy	6	8·2	15·4 "	—

It may be noted from a consideration of these tables th all the cases, with the exception of those commencing wi hæmoptysis or pleurisy, must have run a fairly rapid cour

The chief measures at present adopted for the treatment tuberculosis may be stated generally to be—(1) rest; (2) suitable and sufficient dietary; (3) graduated exercise; a (4) fresh air. The chief controversies have arisen over t relative proportion of rest to exercise which is necessary bring about a cure; my intention is to deal chiefly with th aspect of treatment.

It will be well to mention here certain particulars wi regard to the theory of the formation of opsonins. It supposed that for the satisfactory evolution of opsonin occur the following factors must coöperate: certain of t products, at present but imperfectly defined, of the speci micro-organism, in this instance the tubercle bacillus, mu be able to find their way into the fluid tissues of the body for convenience we will call these products tuberculin. T formation of toxins and antitoxins, though undoubted intimately interwoven with the subject, will only be indirectly referred to here, the antibacterial products being chiefly considered. In addition to the presence of tuberculin there is some reason for supposing that movement of muscle[2] is necessary for the production of opsonin; this substance is probably largely instrumental through raising the blood pressure. It might be inferred from the above that exercise would prove more beneficial than rest in the treatment of *tuberculosis, nevertheless it is probable that much more harm* is done by excessive exercise than by excessive rest; the reason for this will, I think, appear later.

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[1] Clinical Lectures on Pulmonary Consumption, by Felix von Niemeyer, M.D., The New Sydenham Society, 1870.

There is reason for supposing that active movements and mechanical disturbance of the actual focus of disease will produce an increase in the amount of the products of the bacillus and will assist in the distribution of these products. This process corresponds clinically with an increase of local signs of inflammation, following upon movement and mechanical disturbance of the parts. Massage of joints when beneficial is probably so on this account.

It must be remembered that rest is undoubtedly the most potent therapeutic factor we possess for arresting the spread of tuberculosis; it is the only way of preventing the laying down of fresh tubercles, and as consolidation largely consists in a great agglomeration of tubercles *rest* may often prevent the occurrence of considerable consolidation, and as consolidation is antecedent to excavation, and with excavation in order to protect the healthy lung, we require a *considerable amount of fibrosis, by keeping* a patient in bed we may prevent the formation of a chronic invalid. The great difficulty in treating any tubercle which has been allowed to form lies in the very nature of its anatomical structure, for if tubercle bacilli lie long enough undisturbed in the tissues they become surrounded by avascular tissue composed of cells of various kinds which for lack of nourishment degenerates into caseous masses. Tubercles which have become avascular represent portions of lung tissue which have passed beyond the possibility of recovery, though perhaps not of some kind of repair, and no treatment can possibly bring about a return to the normal condition. The portion of lung lost is lost as irrevocably as an amputated limb. These caseous masses may become shut off by fibrous tissue from the healthy lung tissue, or the fibrous tissue may only imperfectly surround them, the disease spreading at one or other edge, or the mass may protrude into an air vesicle or bronchus and be expectorated, leaving a cavity which may vary in size from a millet seed to one occupying the whole of one lobe. The former may be comparatively unimportant, the latter is very serious, and all degrees between these two extremes are to be met with. The number of tubercles, therefore, which are allowed to become bloodless has a very important bearing upon treatment, for when caseous masses have been formed or cavities have been excavated with walls consisting of fibrous tissue they become beyond the reach of any known treatment and, it is quite safe to prophesy, beyond the reach of any treatment which will ever be discovered, and no antitoxin or tuberculin or serum can ever cure these areas. Avascular tubercles, though producing no tuberculin that can be curative, always remain sources of danger owing to the virulent tubercle bacilli which they contain.

When an early acute case is put to bed the conditions existing in the lungs may be illustrated, perhaps somewhat

about a cure. It is here contended that rest of an absolute kind will prevent these last-mentioned tubercles from becoming bloodless; they will, of course, never be visible anatomically.

For the purposes of argument tuberculous lesions have been divided into the following classes: 1. Tuberculosis affecting the skin and mucous membrane. 2. Tuberculosis of joints. 3. Tuberculosis of solid organs. 4. Tuberculosis of the lungs: (*a*) acute febrile tuberculosis (see definition further on); (*b*) tuberculosis affecting chiefly the pleura; (*c*) localised tuberculosis of one apex, diagnosed by the occurrence of hæmorrhage; and (*d*) chronic tuberculosis, chiefly characterised by excess of fibrosis—(1) when the infection is pure, and (2) when the infection is mixed. 5. Tuberculosis of the larynx.

Before continuing further it will be well to recapitulate the conditions necessary for a cure to be brought about. The right kind and right amount of tuberculin must be present; the right kind is always potentially present and may be derived from the patient's own lesions. Furthermore, the tuberculin must be able to reach the general tissues of the patient; in addition, it is assumed a substance derived from muscle must be present.

Tuberculosis affecting the skin is extremely chronic, yet it is very persistent and spontaneous healing seldom occurs; it is difficult to demonstrate the tubercle bacilli in the lesions, owing to their scanty number; probably very little tuberculin is formed. We also noticed that the skin is comparatively speaking motionless, or at least seldom changes its position relatively to the rest of the body, and hence the lesions are not by movement provoked into activity; these patients are, however, able to take plenty of exercise; further, the diseased part is kept at rest, which as a rule tends to promote healing. We might therefore conclude that lupus failed to heal owing to the absence of sufficient tuberculin. There is some evidence that this is the case, for we find that treatment by the Finsen light, hot sand bags and the x rays, all of which cause some determination of blood to the affected part, will in a considerable proportion of *cases effect a cure; efforts are here made to* provoke the lesions to greater activity; in addition, a certain number of cases have been cured by the injection of tuberculin.[3] It has also been proved that in some cases where persons suffering from lupus have developed active disease in the lungs the lupus has cleared up completely before death.[4]

We will now pass on to consider tuberculosis affecting joints It has long been taught that the best method of treating tuberculous joints was by immobilisation on a splint. We may now inquire how the necessary conditions for cure are fulfilled in the case of joints. The disease may be fairly acute or very chronic; in the former event too much and in the latter too little tuberculin will be produced. To overcome the former trouble we may try immobilisation and to remedy the latter fault we may employ active movement, passive movement, or massage. Although it may be necessary to place the affected limb on a splint this will not prevent the patient from taking exercise with his other limbs; the necessary muscular components will therefore be produced. Tuberculosis of joints is, as a rule, nothing like so chronic as tuberculosis of the skin, we should, therefore, expect this kind of tuberculosis to be fairly amenable to treatment, and this is found to be the case in practice.

Before passing on to consider tuberculosis of the lungs it becomes necessary to define what is meant by an acute case; many of the cases which come under the present definition would not be regarded as acute by the majority of practitioners. By acute is meant any case which does not exhibit a perfectly normal *temperature In order to discover accurately* the temperature it is absolutely necessary that the patient should be put to bed and the temperature taken in the rectum at 8 A.M., 12 noon, 6 P.M., and 8 P.M., no temperature is regarded as normal which does not fall at least as low as 97·9° F. (36·6° C.), better 97·8° F., in the morning and which does not rise above 99° F. (37 3° C.) all day when the patient is kept absolutely at rest, including silence. It is assumed, for the purpose of argument, that if the temperature rises higher than this auto-inoculation is too considerable or too frequent, or both.

In tuberculosis of the lungs the amount of tuberculin may be too large—this is what occurs in acute cases. How, then, can we limit the amount of auto-inoculation? It has been found from clinical experience that the only sure way of limiting the amount of auto-inoculation is by limiting the movement of the foci of disease in the lung; this can only be accomplished by resting the lung as a whole; furthermore, the lungs, like the heart, can only be approximately rested, and then only by reducing the movements of the body to a minimum; in order, *therefore, to* prevent mechanical disturbance of the diseased part we must rest the patient absolutely in bed; in addition, as talking causes considerable acceleration of respiration, we must keep the patient silent, and coughing must be reduced to a minimum, if necessary, by the administration of opium or one of its efficient derivatives. It will be observed that although excessive auto-inoculation be checked these patients are deprived of the substance derived from the movement of muscle. We may, therefore, expect to meet with difficulties in treating these cases, and the absence of the factor may account for the long periods it is sometimes found necessary to keep these patients recumbent. If the substance referred to has anything to do with raising the blood pressure the administration of adrenalin, or beef-tea, or raw meat might be expected to be beneficial. Massage of the limbs I have thought to be useful in some cases.

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[2] Allen: Vaccine Therapy and the Opsonic Method of Treatment, p. 15, H. K. Lewis.

[3] The Treatment of Lupus, &c., Tod and Western, Practitioner, vol. lxxx, No 5, p. 703.

[4] Tuberculosis in Infancy and Childhood, edited by Kelynack. Baillière, Tindall, and Cox. P 158.

The difference, therefore, in behaviour of the different varieties of tubercle depends largely on a question of movement; the lungs and the heart being the only organs which cannot be rested absolutely can only be rested approximately by cessation of all movements. In tuberculosis of the pleura a new factor comes into play, the limitation of movement present in all pleurisies and very persistent in its action. Here a natural splint is provided which may be the chief reason why tuberculosis of the pleura usually runs such a benign course; auto-inoculation because of this is reduced in amount, and the diseased part is kept fairly still, muscular exercise not producing such disastrous results. When effusion takes place the rest of the part is more complete and a cure occurs fairly frequently after a moderate effusion.

In cases where hæmoptysis is the first sign it will usually be found that a vessel has given way in the middle of a comparatively small focus of disease at one or other apex. There is usually a considerable amount of fibrous tissue round the lesions, making delimitation by the x rays easy. These people are often in fair health at the time of the hæmorrhage. It is probable that in many of these cases but for the hæmorrhage the disease would have gone on to complete healing. Most of the obsolescent tubercle found when patients have died from other affections probably represents potential hæmoptyses, which fortunately never occurred. The slight constitutional symptoms from which these patients suffer lead us to infer that very little tuberculin is formed in the lesion, and what is formed finds great difficulty in reaching the general system owing to the fibrosis; in addition a small focus surrounded by dense fibrous tissue will undergo very little mechanical displacement even during active respiration, and therefore the disease is not likely to be provoked into activity by exertion, unless very severe or during excessive movements of the arms, as in digging. The substance derived from muscular action will, as a rule, not be wanting. The resemblance between these lesions and lupoid ulceration of the skin will occur to everyone. The behaviour of many of these cases is similar to lupus, with the difference that the lungs are a much more vascular organ than the skin. The disease often progresses slowly, the lung being gradually eaten away; it may take years for any considerable destruction of lung to take place. The hæmorrhages are often recurrent, in the intervals the patient enjoys excellent health. This class of case may prove difficult to cure, but is, as a rule, easy to benefit, and in any event their course is often prolonged; this may be gathered from a study of Tables I. and II.

The next class includes cases of chronic tuberculosis in which treatment has failed—as a rule because sufficient rest has not been prescribed sufficiently early and for sufficiently long periods. There is reason for supposing that chronic cases are largely due to exercising too freely, what have here been defined as acute cases. The chief feature in chronic tuberculosis is the presence of a large amount of fibrosis, which is itself largely determined by antecedent bloodless tubercles. This fibrous tissue cuts off the more or less extensive caseous masses, or when these have been exfoliated the more or less extensive cavities, from what healthy lung tissue remains. We find consequently that these patients are subnormal generally, short of breath, either from destruction of lung tissue or oftener perhaps due to the reduction of the total lumen of the blood channels through the lungs, showing itself as a failing heart. Owing to fibrosis any products of the lesions find difficulty in reaching the general system and constitutional symptoms are largely absent. The tubercle bacilli hidden in the thick walls of cavities are very persistent, being shielded by the fibrous tissue from harm. Owing to the shutting off of a free channel for the tuberculin from the lesions by fibrous tissue they show little sign of spontaneous healing; the disease as a rule tends to creep slowly on, the progress often marked, however, by exacerbations due to infective sputum being sucked down bronchi leading to healthy lung tissue. In time, as a rule, other micro-organisms are grafted on the tuberculous lesions, and they fall into the class of mixed infections.

Before considering the next type it will be well to say something relative to the production of fibrous tissue in consumption. It will be admitted that when fibrous tissue is produced in excessive quantity much crippling takes place, and when its production is progressive it ultimately leads to the death of the patient by destroying the channels of the lesser circulation through the lungs. It has always been taught that fibrous tissue brings about a cure in consumption, and this is no doubt so far true that after the exfoliation of diseased foci their places, as in all other destructive lesions, must be taken by newly formed fibrous tissue; but it is unnecessary for the process to go beyond this stage; it is contended here that if acute cases—and practically all cases are acute to commence with—are exercised too early considerable areas of caseous tubercle are liable to be shut off permanently from the general system and are thus prevented from exfoliation, and if exfoliated, through their magnitude to leave behind them large cavities; with all the deplorable conditions usually associated with such formations a satisfactory cure when this state of affairs has been reached cannot be expected. In those instances where small lupoid patches occur it is true they may be shut off by dense fibrous tissue without much harm being done, and this is probably the *raison d'être* of the cures brought about by large amounts of physical exertion.

Laryngeal tuberculosis has been classified separately because it exhibits in such a remarkable manner the benefits to be derived from rest.

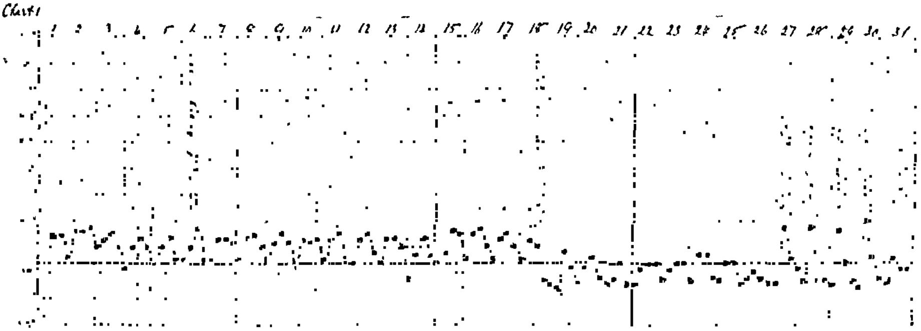
From the above considerations some guidance in the treatment of all cases of tuberculosis may, I think, be obtained. In the first place it must be insisted on that all patients who exhibit even the smallest sign of invasion by the tubercle bacillus must be treated with the utmost rigidity. When people have become seriously ill so much valuable time and valuable lung tissue have been irrevocably lost. The careful taking of the rectal temperature whilst the patient is kept in bed is the most reliable guide. If a patient is allowed to get worse and has never been rested in bed the medical adviser will find great difficulty in justifying his position.

So long as there is any fever as defined above, these patients must be kept at rest; the rest should always be in bed and each patient must have if possible a separate room. A sufficiency of fresh air can always be obtained in the rooms of an ordinary sanatorium. In my opinion nothing but harm can be done by putting these patients out on verandahs or by letting them lie about in long chairs; rest in bed is essential. Absolute rest in bed should be insisted on when, during rest in bed including silence, the temperature rises above 100·4° F. (38° C.) during any part of the day. As a rule it will be found that if these principles are enforced rigidly the actual period of solitary confinement will be very much reduced. When the temperature does not rise higher than 100·4° F. (38° C.) during the day I usually allow these patients to visit the lavatory and perform their toilets generally, in the hope that the substance derived from muscle may be produced in this way; otherwise they are kept in bed until their temperature sinks as low as 97·8° F. (36·5° C.) the first thing in the morning. It is extremely important that the temperature should be low before breakfast, and this should always be taken in the rectum, any other way being quite unreliable. The following case illustrates well the method pursued and also illustrates the danger these patients are in if walking about.

I visited Miss X about three weeks before she was admitted to a sanatorium. She had been ill for about four months, the trouble commencing with a cough and night sweats; she had, however, done her work until about a month before I saw her. She had at that time come to be medically examined and her doctor on first seeing her remarked on her healthy appearance. He found, however, on examining her chest considerable signs of disease at one apex and at once advised her to go to a sanatorium. This she decided to do, though opposed in the first place by her friends. When I visited her she was supposed not to be feverish and was pottering about all day, and in addition was playing the piano and singing solos. These latter amusements she gave up at my request, though she informed me that she was not *feeling ill.* She was well nourished, but signs of considerable activity were discoverable at one apex and her sputum was loaded with tubercle bacilli. The subjoined chart gives a very fair account of her progress during her first month at the sanatorium. It will be observed that according to the standard here set up she was feverish when first admitted and the fever continued for 18 days, and it is remarkable, though perhaps a coincidence, the way in which her fever fell after the first massage. Raw meat alone, as seen from the chart, had apparently no effect by itself. It may be well to state here that until her temperature fell to normal she was kept strictly isolated and discouraged from coughing. She lost her tubercle bacilli in three months.

Tuberculosis when attacking the pleura usually runs a much more benign course than elsewhere, a cure often taking place by means of such measures as are appropriate for acute pneumonia. We should therefore be cautious in ascribing a cure in these cases to any form of treatment which may be adopted. These patients should, like the former class, be kept in bed until all fever has subsided and then exercised very gradually. When these patients are rested completely, it will generally be found, as also in acute cases, that the breath sounds remain feeble for a considerable length of time, indeed, as a rule, until exercise is taken; they usually return more speedily after exercise has commenced. This, however, is not a reason for getting them up quickly, but rather the reverse, for feeble breath sounds are a sign that the lungs are at rest, and rest is the most powerful factor in the promotion of healing.

FIG. 1.



Temperature chart during the first month in the sanatorium.

I visited William Y——, aged 18 years, three weeks before he was admitted. He had been unable to work for three months. The illness had commenced with cough and sickness and he had night sweats for a fortnight, during which time he remained in bed. Since then he had been walking as much as seven miles a day and taking rides in tradesmen's carts and was not supposed to be feverish. Tubercle bacilli in clumps were present in his sputum. There were considerable signs of activity in at least two lobes. Both vocal cords were slightly affected. He was feverish, like the last patient on admission. He was accordingly put to bed and secluded and was given raw meat and massaged. His temperature did not become normal until 23 days after admission; on the nineteenth day it was found necessary to restrict his reading as this was keeping up his temperature. He lost his tubercle bacilli three months after admission. Space will not allow his chart being given.

I may say that both these patients were exercised with extreme care when first allowed up.

A case recently came under my care of a young man who had been confined to bed for three months without any fall in temperature; he was also steadily losing weight; I placed him on rigid silence and secluded him and his temperature fell to normal in ten days. I have at present a patient who had been kept in bed for about three months, with the result that his temperature had fallen from 102° F. (39° C.) to about 100·4° F. (38° C.), and there it stayed for some weeks; he was then kept absolutely silent and in 24 hours his temperature had fallen a degree Fahrenheit; from that point he continued steadily to improve and is now walking as much as eight miles a days without harm.

It is in my opinion extremely important that the temperature should fall at least as low as 97·8° F. (36·5° C.) in the morning before breakfast before the patient is allowed to get up. It is true that in a good many cases the temperature will fall ultimately, even supposing the patient be allowed to walk about, but it does not follow that he will be in as favourable a condition for cure as when it falls during rest in bed: in the former case it is probable that more bloodless tubercle, which necessarily means more destruction of lung, will have been laid down.

Cases commencing with an initial hæmoptysis are, as a class, the cases which exhibit the least fever and consequently require the least rest. Judging from the tables at the beginning of this paper they represent about 20 per cent. of the total number of cases. It will be found, however, that only a very small proportion of phthisical patients can dispense with rest in the first instance, for of those starting with hæmorrhage some will be found to be febrile; in my opinion, most, and all require some rest in bed at the commencement of the bleeding. The fever in this class of case as a rule subsides fairly rapidly. A parallel has already been drawn between these cases and lupus of the skin; now the main characteristic of lupus is its extreme chronicity, due to a comparatively non-virulent infection. These cases are generally comparatively non-febrile, and in order to promote a cure it seems advisable that some form of fairly violent exercise should be prescribed in order that either the indolent tubercle may be provoked into activity and so bring about a cure, or that the formation of considerable fibrous tissue around the comparatively small lesion may be facilitated; this can most readily be done by making the patient dig, as the movements of the arms are more likely to cause some disturbance of the focus in the lung than mere walking. Obviously this is an experiment fraught with some risk and these patients require very careful supervision; it has been carried out with success on a large scale by Dr. M. S. Paterson at Frimley.[5] It may be noted that the temperature in many cases of initial hæmoptysis shows no sign of going higher than 99·6° F., even after a long spell of hard work. These temperatures should, however, always be taken in the rectum immediately after the work and should not be allowed to rise higher than 100·4° F. (38° C.), which should sink with half an hour's complete rest to nearly 98·6° F. (37° C.). How unreliable taking the temperature in the mouth may be can be inferred from the accompanying chart where the temperatures after exercise were taken simultaneously in the mouth and in the rectum.

It should be remembered that the temperature of normal persons rises considerably after exercise, the amount varying with the severity of the exercise and the heat of the day. The great thing to do in treating chronic cases is to prevent their occurrence; these cases are at present only too numerous, and I fancy colour the ideas of many medical men when considering consumption. Unfortunately, some of these cases are always with us, though not all for long. Chronic cases, it should be remembered, probably are the most potent cause in the handing on of the disease, as tubercle bacilli shut away from healthy lung tissue, in the walls of cavities, by means of abundant fibrous tissue persist indefinitely and when expectorated are liable to infect the healthy. It is urged here that the formation of chronics can largely be avoided by the early, and sometimes prolonged, resting of cases of consumption. It will often be observed that patients who at first exhibit the most violent constitutional symptoms if they eventually survive ultimately make the most perfect recoveries; this is probably due to the severity of their symptoms, making it absolutely necessary that they should be confined to bed. It may, of course, happen that if the tubercles in an early case are more widely scattered, with considerable areas of intervening healthy tissue, more constitutional symptoms may be produced than if the same number of tubercles were packed close together, and that in the former case from anatomical considerations it will be easier for the lungs to deal with the trouble; whilst in the latter, owing to the massing of the tubercles, the way is paved for the production of chronic disease. When the patches of disease are not too large these patients may ultimately make good recoveries and are to be classed with cases commencing with hæmoptysis. Should there occur any exacerbation of the disease, these patients must be treated like the acute cases before mentioned.

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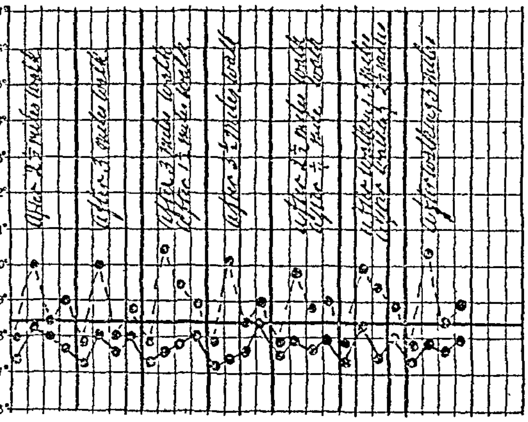
[5] Graduated Labour in Pulmonary Tuberculosis, by Marcus S. Paterson, THE LANCET, Jan. 25th, 1908, p. 216.

FIG. 2.



Interrupted lines = rectal temperature. Continuous lines = mouth temperature.

The treatment of tuberculosis of the larynx depends largely upon resting the vocal cords by insisting upon silence, and every effort must be made to diminish the cough, if necessary by means of large doses of opium or its efficient derivatives. This silence may have to be enforced for months. The opium here acts as a splint to the larynx. It may be here observed that coughing is one of the most harmful practices that a consumptive can indulge in, and when constant must always be checked. These patients ought never to be informed they are taking opium. Too frequent examinations of the throat should be avoided and acute cases should be examined very sparingly and never be asked to cough. Coughing may easily cause dissemination of the tubercle and can answer no useful purpose, as it is preferable to leave the differentiation of any crepitations that may be present to a more safe and convenient season. So soon as the temperature falls laryngeal patients may be allowed to take exercise.

If the above suggestions are carried out it will in almost all cases mean that the consumptive patient must first of all be rested, and it should be remembered that rest means something far more than is ordinarily understood by that term: it means as complete an approximation to absolute stillness obtainable, and for this reason, that whereas in ordinary injuries to limbs and the like, it is possible to keep the part at absolute rest by means of suitable splints, in the case of the lungs this is quite impossible, and rest can only be obtained approximately by absolute recumbency, together with abstention from talking, laughing, coughing, and so on. Even rest such as this does not rest the lungs so much as might appear, as anyone can realise for themselves by noting subjectively the actual movements of the thorax when lying as quietly as possible in bed. It may be remarked here that the strain of the uncontrollable and useless cough peculiar to, and coincident with, the first laying down of tubercles in the lung before there is any expectoration, is a sufficient strain on the laryngeal structures without having superadded the strain of talking. As a rule, it will be found impossible to carry out this method of treatment except in a properly constructed sanatorium with single bedrooms, and where the staff is sufficient to allow any or all of the patients to lie in bed if necessary.

If rest of a graduated kind together with good food, are the chief means we possess for bringing about a cure, the precise climate in which a sanatorium is erected will be a matter of comparative unimportance. It will, however, be found that if a patient has been allowed to develop extensive disease or has bronchitis or laryngeal disease, especially if a mouth breather, that is to say, where the lesions speedily come into contact with freshly in-drawn air, that wintering abroad in some comparatively mild and moist climate will greatly benefit the condition, and by allaying the cough may promote healing. The only way that such a climate can be produced in this country on certain winter days is by means of a fire which does not unduly dry the air, together, if necessary, by preventing too large an entrance of the outside atmosphere.

The sending of phthisical patients abroad should never be encouraged without very careful consideration, and when one hears of a patient going to Egypt for treatment, one is scarcely surprised to hear of his premature death in South Africa some months later. I should therefore before closing like to recommend to the more wealthy sufferers from this disease, who in some respects resemble Naaman the Syrian, the advice of his servants when he said, "Are not Abana and Pharpar, rivers of Damascus, better than all the waters of Israel? may I not wash in them, and be clean?" "And his servants came near, and spake unto him, and said, My father, if the prophet had bid thee do some great thing, would'st thou not have done it? how much rather then, when he saith to thee, Wash and be clean?" Rest and be cured.

Ayrshire Sanatorium, New Cumnock.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Auto-inoculation versus Hetero-inoculation.

A MEETING of this section was held on March 23rd, Dr. T. H. GREEN being in the chair.

Mr. E. C. HORT read a paper entitled "Auto-inoculation *versus* Hetero-inoculation in the Treatment of Established Infective Disease in Pyrexial and in Apyrexial Conditions, as controlled by (*a*) Clinical Observation, and (*b*) Estimation of the 'Antipyretic' Index." He said in regard to immunity and infection that the practice of inoculation with immune serums and bacterial vaccines, as at present employed, was based on the assumption that in fighting infective disease the tissues had only to contend against extracellular forces such as bacteria and their products. No provision, therefore, whatever was made for antagonising such intracellular enemies to the tissues as autolytic and other enzymes and the products of their activity. This neglect of the intrinsic factors in infection explained the failure of bacterial vaccines in tuberculosis and other serious infections, and the futility of expecting such purely bacteriotropic bodies as opsonins to afford a satisfactory basis for gauging immunity response. In 38 out of 51 opsonic estimations of tuberculous serums no two observers could agree as to what the opsonic index actually was. Opsonic estimations were also unnecessary in pyrexial cases, because if temperature charts were examined in the way he suggested they practically became immunity curves. All cases of tuberculosis with fever fell into one of three main types of curves—(1) cases with response greater than intoxication; (2) cases with intoxication greater than response; and (3) cases with intoxication and response equally balanced. *In cases exhibiting Curve 1 the* prognosis was excellent owing to effective spontaneous auto-inoculation. In such inoculation was unnecessary. In cases exhibiting Curve 2 the prognosis was bad and inoculation dangerous. Some cases exhibiting Curve 3 were ideal subjects for inoculation, but as tuberculin injection made no provision for meeting intracellular needs it ought to be condemned in cases with [illegible] inoculation, on the oth[illegible] ment for such cases if [illegible] Whenever cure of tuberculosis and other infections naturally occurred it was only by spontaneous auto-inoculation that the disease was arrested. This arrest was brought about by restraining all the factors in infection, the intracellular as well as the extracellular. Charts showing successful treatment of pyrexial cases of tuberculosis were exhibited. Variations of the antitryptic index of tuberculous and other serums were then referred to and it was claimed that in apyrexial cases the method of estimation introduced by Golla would prove to be of great value. The fact that the antitryptic index underwent variation in diseases where cellular changes were the chief factors as distinguished from those in which the bacterial element was predominant in which it was also raised, afforded proof to some extent of the views he propounded. A list of diseases in which such variations occurred was given.

Dr. D. LAWSON (Nordrach-on-Dee) said that the temperature by itself was not a trustworthy guide to the advance of tuberculosis and he protested against the temperature chart being exalted into a fetich; he advocated the consideration of broad clinical facts and a wider basis of observation.

After Dr. F. PARKES WEBER had spoken Mr. HORT replied.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Pernicious Vomiting of Pregnancy.—Primary Ovarian Actinomycosis.—Primary Carcinoma of the Vagina.

A MEETING of this section was held on March 12th, Dr. HERBERT R. SPENCER, the President, being in the chair.

Dr. R. DRUMMOND MAXWELL read the clinical account of a fatal case of Pernicious Vomiting of Pregnancy in a primigravida, aged 26 years. The chief features of interest in the case lay in the difficulty of diagnosis, since the patient after admission to hospital ceased vomiting, and there was only the history of severe vomiting at home, unassociated, however, with marked wasting. The toxic nature of the case did not reveal itself in any characteristic alteration of the urine; there was no albuminuria; the only ominous signs on admission were drowsiness and a very rapid weak pulse; there was no jaundice. *The patient passed successively through stages* of restlessness, delirium, mania, and final coma. A necropsy revealed hyaline degeneration and necrosis of the central cells of the hepatic lobules, the kidneys also showing a severe parenchymatous nephritis; sections of both tissues were shown under the microscope.

Dr. F. E. TAYLOR and Mr. W. E. FISHER communicated notes on a case of Primary Ovarian Actinomycosis, a full account of which will be found in THE LANCET of March 13th, p. 758. They pointed out that actinomycosis of the ovary constitutes one of the curiosities of gynæcology, only six cases of this condition being on record. In none of these had the ovary been the primary seat of infection, but had been infected by extension of the disease originating either in the intestines or in the vagina, uterus, or Fallopian tubes. The patient was a single woman, aged 34 years, and was admitted into the Chelsea Hospital for Women in June, 1908, complaining of abdominal pain. The periods were very irregular and very profuse. Pain was first noticed three and a half years before and soon after she became troubled with night sweats, which had continued up to the time of admission to hospital. The right ovary was found to be enlarged. The patient declined operation at this time. Pain and discomfort continued intermittently and at one time she passed blood and pus in the urine. Marked anæmia and loss of flesh finally led the patient to enter the hospital. She was then found to have a tumour of the size of a child's head, which filled the pelvis. There was no tenderness, but the tumour was fixed. The temperature was raised. The tumour was removed, when it was found to be very adherent to the surrounding parts. Both Fallopian tubes were occluded and bi-lateral salpingo-oöphorectomy was performed. The patient for a time was very ill, but she ultimately recovered and left the hospital with a small sinus. Shortly after a large abscess burst and a large amount of pus escaped through the sinus. The patient at the present time is fairly well with hardly any discharge. The microscopical examination showed masses of streptothrix.—Professor R. F. C. LEITH said that the specimen shown was a good example of ovarian actinomycosis caused by the streptothrix actinomyces, but caution must be exercised before accepting the contention of Dr. Taylor and Mr. Fisher that the disease was primary in the ovary. He referred to a case investigated by him in which the ovary and part of the tube were affected. The rectal wall was thickened and in the dense fibrous adhesions binding it to the ovary there were plentiful actinomyces growth. Colonies were also found in the rectal wall and in the wall of the descending colon. *His interpretation of this* case, though still *sub judice*, placed the primary disease in the intestine, from which it had spread to the ovary, the intestinal lesions subsequently cicatrising and healing. He ventured to suggest that a similar interpretation might be placed upon the present case. One of the chief characteristics of this disease was the formation of a local lesion at or near the site of entrance and a spread therefrom by direct continuity of tissue. Spread by the blood stream did take place, particularly the portal blood stream, but this was characteristically a late method of extension.—Dr. W. S. A. GRIFFITH and Dr. T. G. WILSON also discussed the case.

Dr. H. RUSSELL ANDREWS read notes of a case of Primary Carcinoma of the Vagina, in which the uterus and the whole of the vagina were removed. The patient, a multipara, aged 62 years, had a carcinomatous ulcer, the size of a two-shilling piece, high up on the posterior vaginal wall. The cervix was free from carcinoma. *The whole vagina was* dissected out from below, and removed together with the uterus. At an early stage of the operation the vagina was converted into a closed bag by clamping with forceps bent at a right angle, with the object of preventing infection of the raw surfaces by carcinoma cells. The peritoneal cavity was closed by sutures, and the cavity between the rectum and [illegible] The patient was quite well whe[illegible] 18 months after operation. [illegible] J. McCANN described similar cases upon which they had operated. Dr. McCann's patient was free from recurrence when last seen four and a half years after the operation. Dr. McCann had seen five examples of primary cancer of the vagina.—Dr. H. MACNAUGHTON-JONES referred to another case of primary carcinoma of the vagina. Seeing the very few cases of primary carcinoma of the vagina recorded in British literature, he had sought for some statistics from abroad. From all these sources he had only been able to collect 23 instances of primary disease.—Dr. A. H. N. LEWERS said he was surprised to find that some of those present considered this condition very rare. He had himself seen, speaking from memory, at least 15 or 20 cases of primary carcinoma of the vagina. In none of them, however, was the disease at a sufficiently early stage to induce him to attempt a radical operation, and he had therefore been obliged merely to scrape and cauterise the growth in such *as had seemed* to require some active treatment.—Dr. RUSSELL ANDREWS replied.

OTOLOGICAL SECTION.

The Problem of Vertigo.

A MEETING of this section was held on March 6th, Dr. PETER McBRIDE, the President, being in the chair.

Mr. SYDNEY R. SCOTT read a paper entitled "The Problem of Vertigo: Some New Data obtained in a Research into the Functions of the Semicircular Canals in Relation to Movements of the Eyeball in the Human Subject." He gave an account of his observations on this matter based upon an examination of nystagmus and eye-movements associated with giddiness in a large number of patients with diseases of the ear. He had adopted the caloric and rotation tests introduced into clinical otology by Robert Barany and had had opportunities of testing cases both before and after the internal ear had been destroyed by disease or operation. Various forms of nystagmus were recognised and the labyrinthine type was fully described together with Mr. Scott's own views of its mechanism. He had found on completion of his research, which extended over a long period, that his observations confirmed those of Mach, Breuer, and Barany, and he presented some new hypotheses to explain the phenomena observed. The mechanism of the stimulus in cases of nystagmus associated with labyrinthine fistula, whether spontaneous or induced, by metal compresion or other means, was described. Some new data were presented in connexion with so-called ablation nystagmus—i.e., persistent nystagmus of true labyrinthine type after removal of one labyrinth, the other labyrinth being normal. Mr. Scott asserted that he had been able to arrest this form of nystagmus by compression of the common carotid artery. The mechanism of the stimulus was accounted for on the assumption of impaction waves from the internal carotid artery in the carotid canal being transmitted to the labyrinth and ampullary apparatus of the semicircular canals. The hypothesis was put forward with a number of facts supporting it and Mr. Scott submitted that if his observations could be substantiated by competent observers the hypothesis would have a much wider application than he had dealt with in his communication. The paper was illustrated by serial sections of the human labyrinth prepared by Mr. Scott and displayed by means of the epidiascope. A demonstration was given of glass models representing the human membranous semicircular canal and utricles.

Sir VICTOR HORSLEY led the discussion and said that in Mr. Scott's investigations and views he conceived a new basis for considering some of the many obscure features of vertigo. He (Sir Victor Horsley) was interested to find his own observations on monkeys substantially confirmed by Mr. Scott's work on the labyrinth in children and he gave the meeting an interesting account of certain forced movements of the head which followed operations on the labyrinth in apes. He hoped that Mr. Scott would give an account some time of head movements associated with nystagmus in human subjects.

The following members took part in the discussion: the PRESIDENT, Dr. URBAN PRITCHARD, Dr. J. DUNDAS GRANT, Dr. ALBERT GRAY, Dr. HENRY J. DAVIS, Mr. E. B. WAGGETT, Mr. C. E. WEST, and Mr. WHITEHEAD, and Mr. SCOTT replied.

MEDICO-LEGAL SOCIETY.

The Difficulties and Abuses of the Workmen's Compensation Act.

AT the meeting of this society which took place on March 23rd, Mr. Justice WALTON, the President, being in the chair, an adjourned discussion took place on Mr. A. S. Morley's paper, "The Difficulties and Abuses of the Workmen's Compensation Act." After Mr. MORLEY had given a brief *résumé* of his paper, Dr. R. J. COLLIE opened the discussion with a paper detailing in strong terms the abuses under the Act known to exist, quoting various authorities in support of his views, and stating that the insurance companies were seriously considering the question of medical examination of every person underwritten by them before accepting the risk of insurance. If that took place it was not difficult, said the speaker, for the most unimaginative to see that the ranks of the unemployed would be augmented by tens of thousands. Sick benefit societies were feeling severely the strain produced by the demoralisation of unduly prolonged sickness and of deliberate malingering. Unless speedily amended the Act as it now stood, instead of being the Magna Charta of the working man, would inflict grave hardships on a very large proportion of the working men of this country. In considering the causation of the abuses Dr. Collie stated that some expert medical witnesses relied too much on the claimants' statements and that others were untrustworthy because their fees depended upon the issue of the case. Both these points he made in very clear and strong language. With regard to the remedy, he said that if two words only in the first schedule of the Act were altered there would be a huge slump in bogus cases, in hard swearing, in prolonged litigation, and in the degradation of the working classes. Section 15 of that schedule enacted that a county court judge might refer the matter to a medical referee "on application being made to the court by both parties." He suggested that the words "either party" be substituted for "both parties." That would make all the difference in the world. It was well known, and very significant, that neither a workman nor his solicitor would agree to remit a case to the medical referee. Further, if Section 5 of the second schedule, which enacted that "a judge may, if he thinks fit, summon a medical referee to sit with him as an assessor," were altered to read, "a judge shall, on demand of either party, summon a medical referee to sit with him as an assessor," then much of the wickedness which he had endeavoured to expose would be a thing of the past.

Dr. F. J. SMITH thought that too much weight was given to the class of witness known as the medical expert. The position of a medical referee would be a much more independent position than that of the medical expert.

His Honour Judge SMYLY said that no doubt there were many doubtful cases under the Act, but, on the other hand, there were a vast number of cases that never came into court, being amicably settled. If that was considered it would be found that litigation under the Act was not so great in proportion as most people thought, and consequently those cases which were taken to court were the doubtful and suspicious ones and required looking into. If a medical referee was present in every case it would be a great assistance. He had suggested that medical questions should go to the medical referee before coming to the judge. To both workman and employer there would be a great saving of expense.

His Honour Judge BRAY thought that in many cases a medical man would be a great assistance to a judge as assessor, because he had to admit that one might be taken in by some of the expert medical evidence. On the other hand, there were cases in which it would be a farce to accept absolutely the opinion of the assessor and to disregard the medical evidence.

His Honour Judge HOWLAND ROBERTS stated that there were many cases of very great difficulty in which there was a conflict of evidence given by apparently respectable and experienced medical men. He had received great assistance from a medical assessor sitting with him, but it would not do for a judge to lean entirely upon a medical assessor, for to some extent he should be guided by the medical evidence.

Dr. S. B. ATKINSON, Mr. M. J. FINUCANE, Mr. W. E. SINGLETON, and Mr. W. V. BALL having spoken,

Mr. Justice WALTON said that since he had been a judge he had done all he could to promote trial with assessors, not merely in medical cases, but in other cases where scientific questions arose. Judging by what he had heard that evening it appeared to him that it would be a better arrangement if county court judges were able to appoint a medical referee or medical assessor—the two were different although working somewhat in the same direction—on the application of either party. With the county court judges present he agreed that there were a great many doubtful cases that came before the courts. Often it was extremely difficult to decide which was the right view, some witnesses honestly taking one view and others the opposite. Moreover, some extraordinary claims were made when it was quite evident that no injury had been sustained at all in the ordinary sense.

The meeting passed the following resolution:—

> That the council be asked to appoint a committee to consider and report what action, if any, the society should take in the matter of the alleged unsatisfactory working of the Workmen's Compensation Act.

The proceedings then terminated.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A MEETING of this section was held on March 12th, Dr. A. R. PARSONS, the President, being in the chair.

Dr. JAMES LITTLE exhibited a specimen of Bronchiectasis from a man, aged 25 years. He was taken to hospital after a fortnight's illness at home. He was extremely short of breath and livid. Later he became breathless to the last degree, and had the peculiar hue which Dr. Hudson used to say was a fatal hue in heart disease—that due to a mixture of unaerated blood and jaundice. He lived three days afterwards. His temperature was never elevated and his pulse was always feeble. Six years previously, when in hospital with scarlet fever, it had been noticed that his heart was beating considerably to the right. When Dr. Little had examined him he found the sounds over the back of the right chest were those of large cavities in the lungs. Over the lower lobe of the left lung there was dulness on percussion. At the necropsy the heart was found dragged to the right side by pleural adhesions. Pneumococci were found in the sputum during life. The lower lobe of the left lung was extremely congested and the cause of death appeared to be pneumonia. The right lung presented immensely dilated bronchial tubes in every part. The auriculo-ventricular orifices of the heart were much dilated. The left ventricle was considerably dilated and hypertrophied. The right ventricle was extremely dilated and somewhat hypertrophied. The patient brought up a large quantity of purulent sputum, but it was not offensive in smell, which was very strange, as he could hardly conceive a lung less able to expel sputum before it decomposed.—Sir JOHN MOORE said that if the bronchial tubes were dilated throughout the entire length, there was less likelihood for putrefaction and consequent fœtor to occur than if dilated through only a portion of their extent.

Dr. J. B. COLEMAN exhibited a Frontal Sarcoma from the brain of a woman, aged 25 years. The symptoms had lasted for six months and had given no localising indications. The tumour had been circumscribed.

Mr. W. I. DE C. WHEELER exhibited organs from a case of Polyserositis. The patient, a man aged 34 years, had been sent from Galway with a large ascites. He was fairly healthy and had no other symptoms. Two years previously he had had his right pleura tapped and when he went to hospital a small left pleural effusion was found and tapped. The ascites increased in hospital. Ten days after admission the abdomen was opened. Covering the liver there was a thick capsule, and over it there were little depressions as if peas had been pressed into the surface of it. The liver was not cirrhosed. There were adhesions between the great omentum and the abdominal wall. The Talma-Morison operation was performed. No signs of tubercle were found, and there was no growth of any kind. The operation seemed to relieve the ascites and he lived eight weeks. He was only tapped once after it, and a very small quantity of fluid was found.—Dr. W. G. HARVEY described at length the post-mortem appearances of the viscera. The organs, with the exception of some congestion and parenchymatous degeneration in the liver and kidneys, were healthy, while their serous coverings were immensely thickened and such serous cavities of the body as were not totally obliterated were distended with fluid. There was absolutely no evidence of tuberculosis either in the sections or as a result of inoculations of guinea-pigs with the fluid.

Dr. J. F. O'CARROL and Dr. H. O. EARL exhibited and described specimens from a case of Pharyngeal Diphtheria and of Heart Disease.

SECTION OF SURGERY.

Exhibition of Cases and Specimens.

A MEETING was held on March 19th, Mr. E. H. TAYLOR being in the chair.

Mr. P. J. DEMPSEY exhibited a case of Lateral Pharyngotomy. The patient had consulted him for hoarseness. He had no pain, but his voice got tired more easily than it ought, and he had a sensation of something in his throat. On examination, by merely depressing the tongue on the right side the beginning of a small pear-shaped swelling was to be seen, corresponding almost identically to the posterior pillar of the fauces. The growth was found to extend down into the epiglottis. On palpation there was evidence of fluid and it appeared to be a branchial cyst. The patient, who had to use his voice in preaching, decided to have an operation. If the cyst were branchial it would probably have diverticula in various directions and could not be got at from the inside. He therefore thought it best to take it away from without. The operation was performed on Nov. 26th as if it were a lateral pharyngotomy, although the pharynx was not opened. When he opened the cyst about two tablespoonfuls of clear fluid came out. The wall of the cyst was curetted and packed with gauze, which was kept in for 48 hours and then removed and a drainage-tube inserted. The tube was kept in for about a week. No fluid came and there were no signs of the cyst refilling. The recovery was uneventful. The patient had pain on swallowing after the operation which disappeared in a few days. He had no trouble since with his voice.

Mr. R. H. WOODS exhibited a case of Extirpation of the Larynx for Carcinoma, with new apparatus for voice production. The patient, a man, aged 42 years, had consulted him two months ago complaining of pain in swallowing. On examination there was a large tumour, occupying the right half of the larynx and extending up to the middle line, which proved on microscopic examination to be a squamous carcinoma. Eight weeks ago, assisted by Mr. Taylor, he opened the region of the carotid sheath and dissected out obviously carcinomatous glands. The glands were adherent, and a couple of inches of the internal jugular vein were excised on the right side. After a preliminary tracheotomy the larynx was opened, and as there was little chance of a hemilaryngotomy curing the case, the whole larynx was extirpated. The trachea was sutured to the skin and the sac of the pharynx completely cut off from communication with the respiratory tract. In order to enable the patient to speak it occurred to him that he might be able to convert the sound made by a reed into speech. Accordingly he fixed a reed in a tube. By putting it into the nose and dropping it over the soft palate, and by putting the other end into the trachea he was able to blow and make the reed vibrate. A valve was used to take in the air and when he had his chest full he put his finger to the end and the air was pressed into the tube. Mr. Woods then inserted the instrument and the patient, after a salutation to the section, counted from one to ten.—Mr. P. DEMPSEY, Mr. W. L. MURPHY, Mr. TAYLOR, Mr. A. J. M. BLAYNEY, and Mr. H. STOKES discussed this very instructive case, and Mr. WOODS, in replying, said that before doing the extirpation he thought it wise to give the patient an antistreptococcus vaccine so as to raise his opsonic index, and his temperature only rose to 100° F. for two days and then fell to normal. This was, in the circumstances, remarkable, and he thought that some of the credit was due to the preliminary vaccination.

Mr. MURPHY exhibited a Rhinolith removed from a woman. [illegible]

Mr. TAYLOR exhibited an Ectopic Hydronephrotic Kidney removed from a young woman about a fortnight ago. The clinical symptoms were strongly indicative of appendicitis. On palpation over her right iliac fossa he was able to determine deep fluctuation, and as she appeared to be very ill he decided to operate that evening and to cut down over the fluctuating area with local anæsthesia. He was surprised to reach the parietal peritoneum without any evidence of pus. When he opened it his finger passed over a surface which was bigger than a normal cæcum and he thought that it might be an ovarian cyst with a twisted pedicle. He extended the incision under chloroform, but found no pedicle. He punctured a large swelling which was fluctuating and tense and a quantity of fluid escaped. The tissue at the edge of the opening was evidently renal. He put a tube into the kidney and drained the hydronephrosis, and after ten days removed the kidney, having previously satisfied himself that the left kidney was healthy. The case showed that even where all typical features of appendicitis were present they might come on a case that had nothing whatever to do either with the cæcum or appendix.—Dr. W. S. HAUGHTON, Mr. BLAYNEY, and Dr. G. PEACOCKE discussed the case, and Mr. TAYLOR replied.

Dr. HAUGHTON exhibited a specimen of Sarcoma of the Orbit and Upper Jaw from a girl aged about 28 years. He described the clinical history and the operation which resulted in an uneventful recovery. He also exhibited a specimen of apparent Carcinoma removed from the breast of a man aged 56 years. The diagnosis awaited confirmation by the microscope.

[illegible] ng of thi [illegible], the Pre [illegible] r and Dr. R. W. MacKenna showed the following cases: 1. Favus affecting the thighs and legs of a steward from an emigrant ship. The scalp and other parts of the body were free. 2. Rodent Ulcer treated successfully with zinc ions. 3. Psoriasis of the Face occurring in women. 4. Psoriasis in a man accompanied by Sycosis. 5. Lupus Erythematoides. 6. Syphilitic Pemphigus Neonatorum. 7. Dermatitis following the use of a proprietary ointment. 8. Wax Casts modelled from cases under their own care, illustrating the cutaneous lesions of syphilis.—Dr. J. R. Logan showed a case of Bilateral Asymmetry which he regarded as hypertrophy of the whole of the right side. The child was 15 months old and the difference had been noticed since birth. During the last five months the right side limbs had grown more than the left but the head had become more symmetrical.—Dr. C. E. P. Forsyth read a note on the Presence of Tubercle Bacilli in the Blood in Tuberculosis. The blood of 12 patients was examined. Ten of these were undoubted cases of pulmonary tuberculosis and in all the organism was found in the blood. The blood was drawn from a vein in the arm. In one case phagocytosis was noticed and only in one was there any evidence of mixed infection. None of the cases was a rapidly progressing case nor a case of general tuberculosis. Of the two cases in which no bacilli were found one patient was probably not tuberculous and the other had physical signs of phthisis but no bacilli in the sputum. These cases went far to confirm Rosenberger's observations, for example, as to the use of vaccine therapy, in this disease.—Dr. Henry H. Clarke read a note on Three Years' Experience in the Use of Tuberculin. His conclusions were: (1) That tuberculin was best administered by the German intensive method, the dose being given at short intervals of one to two days, and rapidly increasing up to one to two cubic centimetres of the original solution; (2) that doses given by the mouth had the same effect as when given subcutaneously; (3) that the temperature and clinical conditions were as delicate a guide to treatment as the opsonic index; (4) that new tuberculin (bacillus emulsion) was the most effective preparation; (5) that it should be prepared from human bacilli in dealing with disease produced by these bacilli; (6) to determine the variety of bacillus he recommended von Pirquet's cutaneous reaction; and (7) he considered tuberculin a useful drug but not a substitute for good food and fresh air.—Dr. J. Hill Abram referred to a case which he reported ten years ago in which the patient completely [illegible] [illegible] treatment with tuberculin T.R.; subsequent [illegible], [illegible]ever, had not confirmed him in its use. He [illegible] [illegible] [illegible]ier that inoculation experiments had estab[illegible] [illegible] [illegible] distinction between the bovine and human varieties of tubercle bacilli. He advocated a further trial of tuberculin treatment on the German intensive lines.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on March 26th, Dr. B. G. Morison, Vice-President, being in the chair.—Mr. Elmore W. Brewerton read a paper on Convergent Strabismus and its Treatment. He said:—Donders was the first to advance the theory that the onset of convergent concomitant strabismus in children was due to errors of refraction. Accommodation and convergence are normally closely associated, and in hypermetropia an excessive amount of accommodation is necessary for distant vision. There is in such cases, therefore, a tendency to excessive convergence. Children are generally hypermetropic and on this account alone show a slight tendency to convergent squint. Their great safeguard is the development of binocular vision, and this latter has to be acquired, and if anything prevents its acquisition convergent strabismus is extremely probable. Binocular vision in its complete sense is the psychical blending of two slightly dissimilar objects so that an effect of *solidarity* is given to the object, and its relation to surrounding objects can be appreciated. In examining children with no apparent squint binocular vision should always be tested. If this is present and well developed no permanent squint will ever appear, and if a history of occasional squint be given it is quite certain that the correction of errors of refraction will correct the squint. The squinting eye is commonly amblyopic—that is to say, it has very defective vision without any apparent cause. There can be no doubt that the vision of a squinting eye can deteriorate for want of use, or rather from active suppression of the image, and this must have a depressing effect on the ocular centres. But, on the other hand, when a squint develops before the age of three years it is practically certain that the vision is far short of perfect. As regards treatment of squint, in all cases errors of refraction must be treated under atropine, and when possible binocular training adopted. If after 12 months in the continuous wearing of proper glasses the squint is as bad as ever operation ought to be urged, and to give a fair chance of developing binocular vision the operation must be performed early, preferably about the age of five years. If operation is decided on, the kind of operation must depend chiefly on the amount of squint present: for 15° advancement of one external rectus, for 30° advancement of both external recti, for 45° advancement and tenotomy of one eye, followed a week later by advancement of the other. After every operation both eyes to be tied up for seven days; then both eyes uncovered and glasses put on and atropine used for a further ten days. The later the squint appears the better a chance of good result, because binocular vision has almost certainly been partly developed before the squint commenced. The worst cases are those who began to squint soon after birth.—Dr. Morison showed a man, aged 45 years, with abnormal Valvular Disease, the murmurs being double aortic and pulmonary.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.—A meeting of this society was held on March 11th. A special general meeting preceded the ordinary business, when it was decided that in future the ordinary monthly meetings of the society are to be held at 8 P.M. instead of at 6.30 P.M.—The following cases were brought before the meeting:—Dr. J. D. Wardale: Tumour of the Eye for Diagnosis.—Dr. David Drummond: 1. A Typical case of Acromegaly in a Coal-miner, aged 40 years. Up to 19 years of age he was quite normal, but since the age of 21 he had observed comparatively little change. He suffered from headache, but there was no vomiting or visual defect. There was no sugar in the urine. 2. A male child, aged seven years, who had a Chronically Distended Bladder which occupied the greater part of the abdomen.—Dr. R. A. Bolam: (1) Lupus Erythematosus of the Scalp; and (2) Lupus Erythematosus of the Face and the Hands, complicated by Psoriasis.—Dr. T. Beattie: (1) a case of Staphylococcus Aureus Infection of the Blood treated with a Vaccine; (2) Gonorrhœal Arthritis in a Male treated with a Vaccine; and (3) a case of Osteo-arthritis due to the Gonococcus. The infection dated nine years back. There was a typical osteo-arthritis of the knee-joint.—Mr. H. B. Angus: 1. A man after Recent Removal of the Scapula for Sarcoma. Mr. Angus had left the acromion and coracoid processes, which he thought was an improvement. 2. A patient with an Old Fracture of the Femur with an Unreduced Sciatic Dislocation of the Hip-joint. An attempt was made to reduce it three months later, but the bone was again broken. An open operation was carried out, but it was found impossible to reduce the dislocation, so the head of the femur was removed.—Dr. W. E. Hume: (1) A case of Bulbar Paralysis; and (2) a Cretin, aged 16 years, who presented the appearance of an infant aged two years. The administration of thyroid extract improved it as regards its limited intelligence and the condition of the skin.—Mr. John Clay showed specimens of Excised Gall-bladders. He took a very moderate view of the operation of cholecystectomy and thought that the main indication was a gall-bladder which had a stone impacted in the duct with the presence of clear mucus. He also urged the importance of not removing the gall-bladder if there was any chance of a permanent obstruction of the common bile-duct.—Dr. A. Parkin showed a typical case of Congenital Heart Disease.—Mr. A. M. Martin exhibited (1) a case where a Splenectomy had been performed for Wandering Spleen; and (2) cases after Rupture of the Knee-joint Cartilages.—Dr. George Hall demonstrated a good example of Disseminated Sclerosis.—Mr. W. G. Richardson read an interesting paper upon Post-operative Tetanus.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 19th, Dr. T. K. Monro, Vice-President, being in the chair.—Dr. A. Freeland Fergus showed a number of photographs of cases and a patient on whom he had performed his operation for Ptosis. The operation consisted in the resection of the tarsus and of excision of a large part of it with the suturing of the remaining portion to the occipito-frontalis muscle. With this operation the patient had considerable power both of shutting and of opening the eyelid. He pointed out that the operations of Worth and Harman were essentially good but that they ligatured the lid permanently open. The operation of Hess, although differing in principle from these operations, also permanently fixed the eyelid in an open position. Pagenstecher's operation was one which he considered should never be performed. Cicatrical contraction by the introduction of thread sutures could, in his opinion, only take place when the sutures were not perfectly sterile.—Dr. W. S. Syme made a communication on Some Points in the Surgery of the Sphenoidal Sinus, based on an examination of 155 adult skulls. The average distance from the anterior nasal spine of the maxilla to the opening of either sinus was $2\frac{1}{2}$ inches, the extremes being $2\frac{1}{8}$ inches to $2\frac{3}{4}$ inches. To the posterior wall the average on the right side was $3\frac{1}{8}$ inches and on the left $3\frac{3}{16}$ inches, the extremes being from $2\frac{3}{4}$ inches to $3\frac{3}{4}$ inches. In only one-sixth of the skulls was the posterior wall distant less than 3 inches, and in none was the opening distant as much as 3 inches. As a rule the posterior ethmoidal cell did not extend beyond the anterior wall of the sphenoidal sinus. Well-marked osseous septa within the sinus were found in 13 cases. Suppuration in these cavities, he considered, was much more common than was generally supposed.—Mr. J. Hogarth Pringle read a paper on the Treatment of Fractures of the Long Bones. He advocated Bardenheuer's method of extension by very heavy weights, sometimes as much as 35 pounds, applied so as to correct lateral displacement and rotation as well as shortening.

CLINICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on March 16th, Dr. J. J. Cox, the President, being in the chair.—Dr. P. R. Cooper reported a c [illegible] ks after delivery c [illegible] seen in the first p [illegible] ine at the sixth month. She had eclamptic seizures at full term and was delivered of a living male child, after which the fits ceased and the albuminuria disappeared. The second pregnancy terminated at seven months and she was delivered of a stillborn child. There were no fits and no albuminuria. Nine days after the patient had some paresis and her mental condition was somewhat clouded. 21 days after confinement she came downstairs, when she vomited and became drowsy. Later albuminuria set in, followed by coma. The usual treatment was followed by no improvement. Lumbar puncture was then performed, from two to three drachms of cerebro-spinal fluid being drawn off, and saline injected under the breasts. Two days later lumbar puncture was repeated, and a further two to three drachms of cerebro-spinal fluid withdrawn. After this the fits ceased and the patient made a gradual recovery.—Dr. E. S. Reynolds made some remarks on the Diagnosis and Treatment of Migraine. He drew particular attention to the more unusual varieties of auræ that might precede the typical headaches. Numbness and tingling in the fingers occurred not infrequently. Transient paralysis of the muscles supplied by the third nerve was a rare form described by Charcot, and a case was cited illustrating this variety. As regards treatment, the synthetic drugs were of paramount importance; antipyrin was usually the most valuable, but some patients responded better to phenacetin, aspirin, or pyramidin. The drugs must be exhibited early in the attack to be efficacious.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A special meeting of this society was held on March 19th to discuss the question of the giving of certificates to hospital out-patients, Mr. R. F. Jowers, the President, being in the chair.—The following motion was proposed by Mr. H. H. Taylor and seconded by Dr. Walter Broadbent, and was passed with only two dissentients:—

[illegible]

should be given.

GUY'S HOSPITAL: THE GULL STUDENTSHIP.—The Gull Studentship in pathology and allied subjects is vacant. The studentship is open to candidates under 30 years of age who have studied in the medical school of Guy's Hospital, is of the annual value of £150, and is tenable for three years. Further particulars may be obtained from the secretary of the board of electors, to whom application must be addressed at the office of the medical school not later than April 17th next. The elected student will be expected to commence work on May 1st.

Reviews and Notices of Books.

The Principles of Hygiene as Applied to Tropical and Sub-Tropical Climates, and the Principles of Personal Hygiene in them as Applied to Europeans. By W. J. R. SIMPSON, M.D. Aberd., F.R.C.P. Lond., D.P.H., formerly Health Officer of Calcutta and Lecturer on Tropical Hygiene at the London School of Tropical Medicine. London: John Bale, Sons, and Danielsson, Limited. 1908. Pp. 396. Price 15*s*. net.

Professor Simpson has by the publication of this work rendered more feasible the improvement of our methods of sanitation in India and the tropics generally. Hitherto no work of authority has been published with quite this scope. Although the principles of hygiene are the same in the tropics as in colder climates, yet they are in truth modified by the differences in temperature, food, mode of life, environment, and civilisation found in the former, and consequently the practice of hygiene in the tropics is in many respects different from that pursued in colder climates, and the methods pursued have to be adapted to their particular circumstances. Non-recognition of this need of adaptation to the varying conditions met with will account for the frequent failures in the application of hygienic principles. For example, water-sealed traps properly ventilated are not equally useful in the tropics and in temperate regions as guardians against gas from sewers gaining access to the dwelling houses. Similarly, English types of latrines are seldom adapted to the habits of Eastern peoples. Other obvious points, among many that have to be considered, are the modification of the methods of the purification of water, the question of food, and the relation of insect life to the dissemination of disease.

The work opens with a discussion on warm climates and the necessary personal hygiene therein. The remarks on food and drink are excellent and those on clothing and bathing represent the fruits of experience, though the reason for some of the rules is not obvious. The author in the next four chapters discusses fully the question of water-supplies. The principles of diet and the construction of dietaries are next considered and are fully up to date, Chittenden's researches in this respect being relied on. The relation of food to health and disease is succinctly debated, and an excellent *résumé* of the bearing of diet on the etiology of beri-beri is given, the various theories on the subject being all set out. Other diseases connected with diet in the tropics, such as lathyrism and pellagra, receive detailed attention as well as the various parasites in food which cause disease. Again, the author pertinently shows how a not uncommon source of illness amongst the native population is the keeping of food which has been cooked overnight, or in the early morning, for meals of the next day in order to save fuel. The food thereby becomes decomposed, or from long standing amidst insanitary conditions absorbs or has had added to it foul emanations or infectious material. The facts in relation to the infection of meat are concisely described, as are the post-mortem appearances appertaining to the several disease conditions that may be met with.

Dr. Simpson next passes to the collection, removal, and disposal of waste matters. The early removal of all such matters from dwellings in the tropics is rendered necessary by these waste products undergoing a far more rapid decomposition in warm than in temperate climates. The removal and disposal in a *dry* hot climate will present few difficulties, but far otherwise is it where the climate is both hot and *wet* or in the region of tropical rains. Then the procedure will be much more complicated. The most important of the waste products are, of course, the excreta and sewage: these, as there are as a rule no sewers in villages and small towns, have to be removed by manual labour or cartage. In connexion with this the author considers the amount of excreta to be removed and the number of buckets and carts required for the removal; the protection of the excreta from rain and flood water—in itself a most essential procedure; and latrines and trenches, where he shows how essential it is to keep the solid and liquid excreta separate. The various forms of latrines are described and next the methods employed for removal and disposal of sewage. The Allahabad system of trenching is considered; it is certainly admirable for temperate climates, as was shown by the late Dr. Vivian Poore, but in India it has drawbacks, notably it attracts dangerously large numbers of flies. This may not be of great importance at certain seasons of the year and if the trenching ground be well removed from dwelling houses; and in the hills Colonel H. Hamilton, I.M.S., has found it to answer admirably.

The removal and disposal of sewage by the water-carriage system has a chapter to itself. This system can only be undertaken in large towns provided with drains and sewers. The author points out that the separate system is the preferable one in the tropics, the storm water going direct to the river, whilst the sewage goes to the land to be purified before admission to the river. The various methods of the disposal of the sewage conclude the section. The subjects of the soil and its drainage next claim attention, and then hygiene in relation to streets and houses. The value of these can be easily understood when we recollect the narrow streets, the winding alleys, the crowding together of the houses, the whole forming a highly insanitary labyrinth which cannot be efficiently cleansed nor be purified by a free circulation of air. (What a blessing to health it would be if such a fire as the old fire of London would burn out once and for ever some of the thickly populated foci of disease with which our Eastern possessions abound!) The sanitation [illegible] jails is detailed and good results are shown to be here [illegible] within the powers of the jail superintendents, as the surrounding circumstances are less inimical to health. The last two chapters are on communicable diseases and on the measures to be undertaken against the malaria and the other diseases caused by the mosquito.

From this brief *résumé* of the work a just idea may be gathered of its design and contents and it will be seen that an ever-increasing number of Europeans require exactly the kind of information with which it is packed.

Our Teeth: How Built up, How Destroyed, How Preserved. Described and illustrated by R. DENISON PEDLEY, F.R.C.S. Edin., L.D.S. Eng., Dental Surgeon to the Evelina Hospital for Sick Children, Southwark; and FRANK HARRISON, M.R.C.S. Eng., L.D.S. Edin., Dental Surgeon, Sheffield Royal Hospital, and Lecturer on Dental Surgery and Pathology, University of Sheffield. London: Blackie and Son, Limited. 1908. Pp. 97. Price 5*s.*

IN the preface to this work the authors state that "this book seeks to explain what is unknown to the majority of educated men and women—viz., the causes of dental diseases, the means of preventing them, their effects, and the need for their rational treatment." The task of writing on disease in language understandable by the lay mind is not an easy one, but the authors seem to have overcome the difficulty and have produced a work which can be readily understood by any and all, and which will have the effect of directing attention to the importance of their teeth and cause them to seek dental advice at an early stage. There are, however, a few criticisms we should like to offer, more perhaps in the way of suggestion for future editions. In a few instances the terms used are a little too technical for a work so directly addressed to the public intelligence. We think that the introduction of drawings to show the developing teeth at birth, one year, and perhaps three years of age would impress more vividly in the mind the fact that in the early years of life the permanent teeth are in the process of formation. Perhaps, too, insufficient attention has been drawn to the actual cause of caries and not enough made of the important part that the easily fermentable carbohydrates play in the production of the diseases. Lastly, we think that the rules on the care of the teeth might be made more terse and more dogmatic. In our view it would be difficult to improve upon the short code of rules in use at the Royal Dental Hospital which is as follows: "1. The teeth must be kept clean. 2. Use a small tooth-brush with stiff bristles. Use a little soap and some precipitated chalk. 3. Brush all the teeth thoroughly, especially the back ones. Brush all surfaces of the teeth. 4. Clean the teeth immediately before going to bed. Take no food of any sort afterwards. Clean the teeth again in the morning." Nobody can mistake the meaning of this code, which is saying a good deal when we recollect what mistakes the hospital out-patient can make.

Archives of the Middlesex Hospital. Vol. XII. London: Macmillan and Co. 1908. Pp. 63.

THIS small volume contains clinical papers from members of the teaching staff of the hospital and contributions from the clinical and pathological laboratories. The first of these is by Dr. Comyns Berkeley on Wertheim's Radical Abdominal Operation for Carcinoma of the Cervix Uteri, and includes a report of four cases. This operation, by which the uterus with as much parametric tissue as possible and sufficient of the healthy vagina to encapsule the diseased area are removed through an abdominal incision, is regarded as a striking advance on any method previously proposed for dealing with cancer of the cervix uteri, since it is applicable to a larger proportion of the cases and results in a greater freedom from recurrence. Dr W. Pasteur, Mr. A. G. R. Foulerton, and Dr. H. Maccormac describe their investigation of a case of acute poliomyelitis associated with a diplococcal infection of the spinal sac, this paper being reprinted from THE LANCET of Feb. 15th, 1908. Mr. W. Sampson Handley discusses the operation of Lymphangioplasty, which he first described in THE LANCET of March 14th, 1908, and gives an account of three cases in which he has employed it. He describes the manner of production of the brawny arms in cases of cancer of the breast, which he attributes to the destruction of the lymph vascular system associated with the permeative spread of the growth. He also refers to the reasons which led him to try the use of "silk conduits" for the relief of this painful complication and gives instructions for the performance of the operation. Dr. Reginald J. Gladstone describes two cases of diaphragmatic hernia. The first of these was a diaphragmatic hernia of the "solitary" kidney in an iniencephalic monster, in which there was also an umbilical hernia of a portion of the liver and gall-bladder. The other case was that of an old woman, aged 96 years, with a fatty hernia into the right pleural cavity, and in addition the sac of a small femoral hernia on the right side and also a small obturator hernia of the extra-peritoneal fatty tissue on the same side. The same observer describes a case in which an aneurysm of the arch of the aorta, multiple tuberculous lesions, a perforated ulcer of the intestine, and a hernial sac co-existed in a man who ultimately died from acute lobar pneumonia. These various lesions were found in a dissecting-room subject who had only complained of symptoms three months before death. There were also present an empyema of the lower part of the left pleural cavity and complete blocking of the thoracic duct by a thrombus. Dr. Victor Bonney contributes a paper on the simulation of the symptoms of tubal pregnancy by acute ovarian abscess. He refers to the fact that in cases of ovarian and tubo-ovarian abscess there is usually a history of amenorrhœa and that not infrequently they are wrongly diagnosed as ruptured tubal gestation.

Retinitis Pigmentosa, with an Analysis of Seventeen Cases occurring in Deaf-Mutes. By WILLIAM T. SHOEMAKER, M.D., Philadelphia. With Examinations of the Blood and Urine by JOHN M. SWAN, M.D., Philadelphia. With illustrations and three coloured plates. Philadelphia: J. B. Lippincott Company. 1909. Pp. 106. Price 8*s*. 6*d*. net.

THIS essay, bearing the modest motto "Valeat quantum valere potest," was awarded the Alvarenga prize of the College of Physicians of Philadelphia in 1908. It is an excellent *résumé* of the subject, though perhaps not so exhaustive as might be expected in a thesis of this nature. Commencing with the history and anatomico-pathological characteristics of the disease, it must be remarked that the pathology is very cursorily dealt with. The symptomatology is adequately described, due attention being directed to the occurrence of ring scotoma and its explanation. Under etiology are discussed heredity, consanguinity, syphilis, maternal impression, deaf-mutism, idiocy, and cirrhosis of the liver. The more recent literature on the hereditary aspects of the question appears to have escaped observation, and the undue importance which has been attached to consanguinity is not sufficiently emphasised. The author agrees that syphilis plays no part in the causation of so-called "idiopathic" retinitis pigmentosa. It is not unnatural that some stress should be laid upon the coincident occurrence of deaf-mutism in some cases, and we are inclined to think that the author's purview of the whole question is somewhat vitiated by the limitation of his studies to a specific group of cases. The clinical details of the author's cases follow, but reveal nothing very noteworthy. The investigation of the blood and urine by Dr. Swan is a piece of work which was waiting to be done, and has been done well. It was a rather thankless task, for *a priori* one could expect no striking results, and it proved negative. Amongst the methods adopted we may point out that Baumann's method of estimating conjugate sulphates is open to criticism. It is to be hoped that some competent pathological chemist will turn his attention to the excretion of these sulphates in various diseases—a subject of far-reaching importance which has not to our knowledge been attacked by unequivocal methods in recent years. The book concludes with a chapter on diagnosis and treatment and a bibliography which is far from complete.

The Systematic Relationships of the Coccaceæ, with a Discussion of the Principles of Bacterial Classification. By CHARLES EDWAI
at the
ROGERS WINSLOW. London: Chapman and Hall; New *York: John Wiley and Sons. 1908. Pp. 300. Price* 10*s*. 6*d*. net.

THE problem of the classification of micro-organisms is of practical as well as of scientific importance. Many groups of bacteria have become so crowded with slightly varying forms that some method of grouping these variants has become a necessity if hopeless confusion is to be avoided. The present work is a careful and painstaking attempt to bring order into the family of the coccaceæ. It has for its basis the detailed study of 500 strains of cocci isolated by the authors from various sources, together with an extensive study of bacteriological literature so far as it refers to the cocci. Much use, too, has been made of the investigations of Gordon and Houston and of the important work on the streptococci by Andrewes and Horder. The value of the work of these British observers is fully recognised and acknowledged. The methods employed have been biometrical. In the case of the strains of cocci isolated by the authors they were submitted to 11 definite, and in most cases quantitative, tests and a statistical study made of the results obtained. On the basis of the numerical frequency of characters it was possible to form a conception of the relations of the coccaceæ which led to a classification not too widely different from that previously employed. The organisms were found to separate themselves definitely into a parasitic and a saprophytic group—the para-coccaceæ and meta-coccaceæ. In the first group fall the pathogenic diplococci and streptococci and the staphylococci (albus and aureus). The authors separate, it will be noticed, the diplococci from the genus streptococci, though it is more usual to regard the diplococcus pneumoniæ as belonging to the streptococci (Andrewes and Horder and others). The morphology and cell grouping of organisms, though used as test characters in the study of the various strains, are not allowed to override the indications derived from the other tests. This is seen in the above example, and in the same way, though the genus sarcina is retained to include packet-forming cocci which are regarded as closely allied to the genus micrococcus (Winslow and Rogers), yet a number of cocci, though showing the sarcina arrangement, are included in a new genus, rhodococcus, on the ground of red pigment formation and other characters. It has become rather usual to consider staphylococcus pyogenes aureus and albus as varieties, but they are here regarded as the type organisms of the two genera aurococcus and albococcus respectively. Variations in cultural characters are considered to be too uncertain and too dependent on small changes, physical or chemical, in the nutrient media to be of any service for the purposes of classification. The character of pigment production under definite conditions is, however, considered to be of high value and a quantitative colour chart is prefixed to the book. The general principles of bacterial classification are most excellently set forth in the first chapter. There is a very extensive bibliography.

LIBRARY TABLE.

Pharmacology: The Action and Uses of Drugs. By MAURICE VEJUX TYRODE, M.D., Instructor of Pharmacology in the Medical School of Harvard University. Philadelphia: P. Blakiston's Son and Co. 1908. Pp. 255. $1.50 net.—This book is an attempt to give the facts essential for the medical student's needs without profound scientific discussions of opposite opinions, and the author has rejected vague and contradictory statements which would but confuse elementary students. The classification is not that usually adopted in the run of text-books. Part I. deals with drugs the constitutional action of which is in greater prominence. These are divided into 25 groups, including such as the following: ether and chloral, amyl nitrite, morphine, ammonia, cocaine, hydrastine, quinine, phenol, and so on. In each case the chief actions, uses and therapeutic effects of the drugs are stated, and at the end a short summary of the group action is added by way of emphasising the chief points. Chemical formulæ are conspicuous by their absence, while as regards the materia medica aspect of the groups the doses are given both from the U.S.P. and the B.P. when the drug is described in both Pharmacopœias. We strike upon a new term here and there, such as the "somnifacient action of chloral." Quinine as a substance that decreases the functional activity of all forms of protoplasm is dwelt on, and so is its use in malaria, the importance of its therapeutical application and its exhibition in large doses a few hours before the division of the parasite in the blood. The prolonged use of such "headache powders" as consist of acetanilid is commented on as the habit may give rise to chronic poisoning. Part II. deals with ferments, secretions, and extracts of animal organs, and includes the digestive ferments, bile, adrenalin, and iodothyrin, animal extracts, and artificial foods, but the last of these is dealt with very lightly. The third part treats of drugs the local action of which is most in evidence, such as skin irritants, urinary antiseptics, vegetable purgatives, bitters and astringents, and anthelmintics, and, last, mechanical agents which are used either for their physical effects in the preparation of active drugs or other purpose—e.g., gums, oils and fat, collodion, &c. The last part deals with drugs of inorganic origin, oxygen, acids, alkalies, neutral salts, non-metallic elements, and finally with metallic compounds. The book gives an excellent and precise account of the chief and most useful drugs used in medicine.

The Food Inspector's Handbook. By Francis Vacher, Medical Officer of Health of Cheshire. Fifth edition, thoroughly revised and greatly enlarged. London: The Sanitary Publishing Company, Limited. 1909. Pp. 268. Price 7*s.* 6*d.* net.—We have expressed our appreciation of this useful little work in our references to the earlier editions; and now that in the present (the fifth) edition the section on meat has practically been rewritten in accordance with recent legislative regulations on the subject, and fresh matter also dealing with statutory powers in regard to the adulteration of food has been added, the handbook forms an excellent practical guide for medical officers, meat inspectors, and indeed all sanitarians at the present time. The illustrations are an excellent feature of the book, 27 new drawings having been specially prepared for this edition by Mr. R. E. Holding, who has given great care to detail, and his representations of various pathological conditions are decidedly [illegible]stic. The sections of the book relating to fruit and [illegible]able foods, while including some instructive paragraphs [illegible]gard to the characteristics, preparations, and appear[illegible]e of these foods when sound, are somewhat brief. The book does not pretend to be a work for the analyst, and so, while the subjects of the composition and adulteration of foods are briefly discussed, the methods employed for the detection of adulteration are omitted. The book is well worth possessing by all those concerned in the practical administration of laws designed to insure the purity and soundness of all classes of human food.

1. *Food Reform.* 2. *Hints Towards Diet Reform.* The National Food Reform Association. 1909. Price 1*d.* and 2*d.* respectively.—We have received the two little books above mentioned with a request from the secretary of the association for their notice. No. 1, which is by the Hon. Neville Lytton, urges the need of food reform, and points out how much of our diet nowadays consists of tinned meat and "artificially bleached bread," a subject to which we have referred recently at some length. The great fault of bread nowadays is that it consists mainly of starch, for not only is the flour so prepared in the rolling mill that nearly everything but the starch is removed, but it is stated that a custom exists of "setting the sponge" with water which has been allowed to run through potato pulp. The second book consists of simple recipes for non-meat dishes. They are good enough, but a vegetarian diet does not suit everyone in this climate, and it is no good pretending that it does. Certain persons may find that their health is better if they do not eat meat, and for such persons a non-meat diet is to be recommended. But food reform is a much wider subject than simply the absence from the dietary of flesh food. Two of the greatest desiderata of diet are pure milk and honest bread. If the National Food Reform Association would set itself to secure that these two articles of diet could be obtained everywhere it would be doing a useful work.

Extraction of Teeth. By Frank Coleman, M.R.C.S. Eng., L.D.S. London: H. K. Lewis. 1908. Pp. 158. Price 3*s.* net.—The removal of teeth, although seemingly an easy operation, is, nevertheless, one which to perform neatly and without undue discomfort to the patient requires a thorough knowledge not only of the anatomy of the parts involved but also of the technique of the operation. In this good little work the author has provided a clear and exhaustive account of the operation, and we can cordially recommend the book to those medical practitioners who are called upon occasionally to perform this operation for their patients without being specialists in dentistry.

JOURNALS AND MAGAZINES.

Hospital Gazettes.—Amongst recent contributions to the school journals we have noticed the following. In *Guy's Hospital Gazette* (March 6th) is a paper entitled An Experimental Feeding Trial in Relation to Epidemic Enteritis, by Mr. E. P. Minnett, who after studying 38 infants for 19 weeks concluded that dried milk prepared with boiling water is deserving of further trial in the summer months amongst the poorer classes, as by proper preparation it affords a nearly sterile food which may well prevent a good deal of epidemic enteritis.—In the *London Hospital Gazette* (March) is an interesting note on Some Historical Associations of "the District," illustrated by a map of the Whitechapel, Mile End, and Docks locality in 1794.—The *Middlesex Hospital Journal* (March) contains an article by Dr. J. Strickland Goodall on Pain: its Nature and its Benefits.—In the *St. Bartholomew's Hospital Journal* (February) the editor called attention to an unfortunate mistake by which the name of Dr. H. J. Ilott of Bromley appeared in the obituary list of the recently published hospital year book, whereas Dr. Ilott is in excellent health and active practice. In the March number of the same journal Dr. A. E. Neligan writes on the Practice of Medicine in Persia, in which, as in the constitutional affairs of that disturbed country, the old is clashing with the new.—The *St. George's Hospital Gazette* (March) is chiefly occupied with local affairs, including "A Chapter in the History of St. George's Hospital," which deals with the Crayle family, notable benefactors of the charity.—In *St. Mary's Hospital Gazette* (March) Mr. S. Maynard Smith discourses upon "The Patient's Point of View"—a point of view which the student is perhaps a little apt to overlook. The author proves himself an observant psychologist.—In *St. Thomas's Hospital Gazette* (February) is an address on Eclampsia and the Other Manifestations of Toxæmia in Pregnancy, by Dr. J. S. Fairbairn.

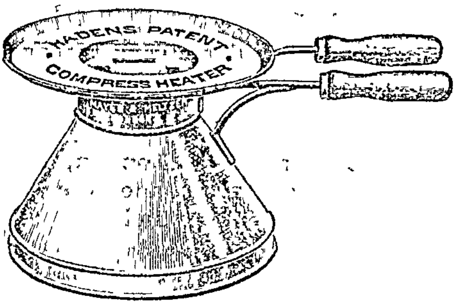
The Contemporary Review for March contains an article by Mr. Jack London which affords an interesting pendant to an annotation recently published in The Lancet on the United States leper settlement in Molokai which has been established to segregate the lepers from the Hawaiian territory. Whereas we dealt with the scientific issue, Mr. London is concerned with the social side of the community, and his particular message is summarised in the vigorous appeal made to him by an engineer patient on the island "For heaven's sake, write us up straight. Put your foot down on all this chamber-of-horrors rot and all the rest of it. We don't like being misrepresented. We've got some feelings. Just tell the world how we really are in here." Mr. London has written them up straight. Without minimising the terrible nature of the affliction which separates these islanders from their homes he shows them to be an active, prosperous, sporting community in which if a man wants to work he can make money, while if he does not feel industrious as a ward of the State he is provided with board, lodging, and clothing, and can idle his time away in a country of extreme natural beauty and with a pleasant climate. Some of the lepers' sports and festivals are described in such terms that later in the course of this interesting article we are not surprised to read: "In the old days, before the discovery of the leprosy bacillus, a small number of men and women, suffering from various and totally different diseases, were adjudged lepers and sent to Molokai. Years afterwards they suffered great consternation when the bacteriologists declared that they were not afflicted with leprosy and never had been. They fought against being sent away from Molokai, and in one way or another, as helpers and nurses, they got jobs from the board of health, and remained." The elaborate precautions taken nowadays to prevent a faulty diagnosis being made are described. These include in every case a bacteriological bioscopy and a subsequent examination by a board of five physicians. Before a patient is sent to Molokai he is kept at a Honolulu receiving station for as long as is necessary to arrange his business affairs, and he is allowed to receive visits from his friends under proper precautions after his segregation. Mr. London's breezy account of this contented lazar settlement is made more pointed by his reference to the mediæval custom of Europe of reading the burial service over a man pronounced to be a leper and regarding him thenceforth as legally dead.

Quarterly Journal of Experimental Physiology. Vol. II., No. 1. 1909. Pp. 108. 6s.—The bulk of this volume is taken up with Dr. J. Macdonald's paper on the Structure and Function of Striated Muscle. Beginning with the undoubtedly unsatisfactory hypotheses explanatory of the facts of muscular contraction—such as the theories of Engelmann (1893), of MacDougall (1897), and the modification of the latter by Bernstein, the author proceeds to indicate the probability that osmotic pressure is a prime factor. The histological evidence shows that actual changes in the distribution of salts have been observed in different phases of muscular contraction. Interesting chapters follow on the theory of muscular contraction and the stability of muscle due to its sarcoplasm, and then are shown the process of contraction and its attendant electrical and chemical consequences. It is the secondary consequences of contraction that determine the occurrence of relaxation. The nature of polarisation, tetanus, and tone lead up to an excellent summary of the author's view. This is a most valuable and suggestive paper. The other papers deal with Recent Work on Protagon, by R. A. Wilson and W. Cramer, with a view to show that this much discussed substance is a proximate principle. There is a short paper on the Pancreatic Secretion, by P. T. Herring and Sutherland Simpson, and one on the Action of Yohimbine, by A. Loewy and Franz Muller.

New Inventions.

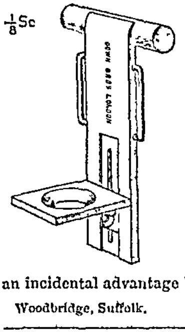
A COMPRESS HEATER.

THIS is a simple but useful invention devised for the purpose of heating poultices, compresses, dressings, and other things of a similar nature for use in medical and surgical treatment As will be seen from the illustration, it consists of a vessel in the shape of a truncated cone, and a pan, perforated in its central part, which fits into and extends beyond the rim of the smaller end of the cone-shaped vessel. The diameter of the pan is about nine inches, the perforated part measuring four inches across. To each of the two parts of the apparatus is affixed a wooden handle which allows of their being moved about without risk of burning the hands of the user. Water is put in the lower part of the apparatus, the compresses or other articles are placed upon the upper tray, and the whole stood over a fire or any form of heating appliance. It will be found that the steam arising from the water heats the compresses almost instantaneously and all risk of scalding the hands is avoided as no wringing is required. Another point worth noting is that in the absence of a properly trained nurse the time of the medical attendant is saved in making detailed explanations and emphasising the risks of scalding when compresses or fomentations are to be prescribed. The appliance should be really useful in hospitals and surgeries in which fomentations are constantly being applied, for, as all former surgical dressers are aware, the preparation of an effectively hot fomentation by means of the old-fashioned "wringer" is attended by considerable inconvenience. For hospital use the heater is made in stout copper, and for less frequent employment it is made in tinned iron at a smaller cost. Messrs. Mayer and Meltzer, 71, Great Portland-street, W., are the manufacturers.



IMPROVED CLAVICLE SPLINT.

I SHOULD like to draw attention to a modification of Mouat-Biggs's clavicle splint which ought, I think, to supply a distinct want. This splint I have found most useful in two or three cases but have been deterred from using it on more than one occasion owing to the difficulty in getting one of the three stock sizes to fit the length of the patient's arm. Messrs. Down Bros have now made a splint with adjustable elbow-piece whereby the length can be altered as required, one splint thus taking the place of three or more fixed splints, an incidental advantage being its increased portability.



Woodbridge, Suffolk. T. CUMING ASKIN, M.D. Dub.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The monthly meeting of the executive committee of this society was held at 429, Strand, London, W.C., on March 19th, Dr. F. de Havilland Hall being in the chair. The record of the business of the society for the early part of this year is satisfactory. The number of sickness claims received has been large but on the whole the sickness experience is rather lighter than for the same period of 1908 The number of new entrants is also quite satisfactory, being well above the average, though rather less than in the corresponding period of last year. As no money is paid by the society as commission and no agents are employed the ever-growing number of new entrants is satisfactory evidence that the benefits offered by the society are appreciated by the profession. Prospectuses and all further particulars can be obtained on application to Mr. F. Addiscott, secretary, 33, Chancery-lane, London, W.C.

THE LANCET.

LONDON: SATURDAY, APRIL 3, 1909.

The University of London, the Royal Colleges, and the Degree in Medicine.

We published recently an important report issued by the delegates of the Royal College of Physicians of London and the Royal College of Surgeons of England who had been appointed to draft a scheme under which joint examinations might be established with the University of London with the object of making an M.D. degree reasonably accessible to all London students. That such a consummation may be reached is, we suppose, the desire of the great majority of people interested in the welfare of the University and of the Colleges. It is desired in the first place by the students themselves who intend to enter their profession through the College portals They have watched the development of provincial universities possessing powers to stamp their alumni with the letters which in the public esteem may appear as a badge of particular competence, and see no reason why their own curriculum, which has progressively grown more severe, should not end in a similar hall-mark These letters the Royal Colleges have no power to grant, though the tests which they impose upon those who seek their diplomas are no less searching than those required of aspirants to many medical degrees. In the second place the authorities of the Colleges naturally wish that their men who have passed a degree-worthy examination should obtain a degree on fair terms. Thirdly, this view is shared by a considerable section of the medical faculty of the University of London, who are grievously disappointed at the proportion of London students presenting themselves for the present degrees. It is, as is well known, not shared by many medical graduates who have obtained the degree of medicine of the University of London under the existing stringent terms, and this might very well be expected.

This is an oft-told tale, and the different methods suggested at different times for the wiping out of a blot on our system of medical education are also quite familiar. Everybody knows now that the Colleges cannot remove it for themselves by the simple process of asking for an extended charter. The institution of a one-faculty university is difficult to defend, and the existing universities would oppose the bestowal of degree-conferring powers upon any other class of corporations, however old, however respected, and however learned. The suggestion that a combined degree be given by the University and the Colleges has not only much to recommend it, but no fundamental objection can be preferred to it; it is sanctioned by the University statutes and has now received definite shape by joint action of the Colleges. The report of the delegates, after pointing out that the great majority of London and Cambridge medical graduates take the College diplomas and that at least a half of the College diplomates are also graduates in medicine, calls attention to the examination facilities afforded to the University of London by the Colleges and proceeds to make recommendations. For their full text we must refer to our issue of March 6th, p 706, but we may summarise the main proposals, which are that the "pass" degrees of M.B., B.S., and M.D., should be granted by the University conjointly with or in association with the Colleges to all students who shall have taken at least four years of their curriculum in London; that the Colleges should continue to grant an independent diploma to students not aspiring to the medical degree; and that the University should grant independent "honours" degrees to those seeking higher distinction. These proposals are supported by strong arguments, and the delegates express the wish to meet delegates from the University to consider the matter with a view to presenting a united recommendation to the newly appointed Royal Commission which is to report to the Government upon the present condition of the University.

We are in complete agreement with the desire of the delegates of the Colleges, or rather of the Colleges which have adopted the report of their delegates, that a united and feasible plan may be presented to the Royal Commission, for herein lies the hope of a comparatively swift settlement of grievances which have been an abiding source of difficulty for a generation. If the Royal Commission cannot formulate a satisfactory scheme to render a London medical degree accessible to the normal and hard-working London medical student, then our metropolitan University will stand an acknowledged failure as regards one of its most prominent duties. We were glad to publish a fortnight ago a document which proves the medical faculty of the University to be alive to the gravity of the crisis and desirous of putting its own house in order so as to speak with unwonted authority before the Royal Commission. We refer to Professor E. H. Starling's and Mr. Leonard Hill's scheme to endow a competent board of their faculty with some of the present powers of the academic council of the University. This scheme has been adopted by the medical faculty with further recommendations which we publish on p. 1003 of this issue of The Lancet, and the new Faculty Board will be appointed in July of this year. Whether this board will have all the results which its begetters desire can hardly be told, but we are convinced that the move is in the right direction, and we congratulate the faculty on their confirmation of the views of two of their ablest men. We congratulate them also on the re-election of Professor Starling to the Senate for the coming four years, which will be perhaps more momentous than any that the University of London has yet seen.

Sanitation in the Field.

IN a recent admirable letter to the *Army and Navy Gazette*, over the signature "R.A.M.C.," attention was drawn to an utterance of Lord MIDLETON at a dinner given in his honour at the Royal Army Medical College in February. "Never again," said Lord MIDLETON, "in regard to sanitation, except on the most absolutely and exclusively military points, will the principal medical officer play second fiddle to any combatant officer whatever." All medical officers in the army are conscious how greatly they are indebted to the speaker, who, when Secretary for War as Mr. ST. JOHN BRODRICK, did so much to raise their status and privileges, both professional and military, and we were glad to see prominence given to his weighty words on the subject. The well-informed correspondent of the *Army and Navy Gazette* goes on to contrast the painful process of evolution through which the army medical sanitarian has had to pass before attaining his present desirable position, and quotes, as was inevitable, the very disparaging remarks which Lord WOLSELEY made use of in his "Soldier's Pocket Book" in regard to the sanitary officer with an army, whom he regarded frankly as "a very useless functionary." Army medical officers have long believed that Lord WOLSELEY did not hold them in great esteem—could they, indeed, hold any other view? But "R.A.M.C." proceeds to quote a sentence from the autobiographical recollections and opinions of Sir CHARLES MACGREGOR, in which Lord ROBERTS appears also to have paid little heed—at any rate, in one instance—to the opinion of a medical officer. It was in regard to the site of a camping ground: the site was reported by the medical authority to be objectionable for sanitary reasons; and it is stated that General ROBERTS (as he then was, during the Afghan war) dismissed the medical protest with pungent and discourteous brevity. If the episode as detailed by Sir CHARLES MACGREGOR actually happened in 1880, all we can say is that the attitude towards the military sanitarian thus shown was very different from his lordship's attitude towards the medical authorities of the army during the last 20 years of his service. There has probably never been any Commander-in-Chief in India, or in the field, or at home, who has shown such lively appreciation of the importance of medical and sanitary matters in the service, or been so cordial in his recognition of individual officers who have served under him, as Lord ROBERTS. And we take particular pleasure in recording this fact because certain of the deplorable occurrences in the South African war have been attributed to a neglect on the part of the then Commander-in-Chief to consider sanitary matters in the light of their due importance. This is an unfair view to take and could only be taken by those who are ignorant of the attendant circumstances.

Many years ago the chief medical officer of an army in the field was also the sanitary officer and was attached to the staff of the Commander-in-Chief of the expedition. Lord WOLSELEY objected that the principal medical officer was not, properly speaking, on the staff of the commander, and for some years it was ordered that he should be borne on the staff of the general commanding line of communications. This was found not to work well, and in 1900 it was again laid down that the principal medical officer of a force was to be attached to the staff of the general officer commanding-in-chief. In the existing Medical Regulations (1906) the conditions and arrangements applicable to field service are not detailed. There can be little doubt, however, that the principal medical officer would not be "relegated to the base" or placed in any other position than that in which he is certainly required—namely, on the immediate staff of the general commanding. As regards sanitation in the field, which Lord WOLSELEY in his "Pocket Book" seemed to think of such small moment—a matter merely of "ordinary cleanliness of temporary camps and bivouacs"—the present position is much more satisfactory. On mobilisation of a force a sanitary inspection committee will be formed for service in the field, consisting of a combatant officer as president, a field officer of the Royal Engineers, and a field officer of the Royal Army Medical Corps. This committee will act under the orders of the general commanding-in-chief, and will ascertain that sanitary materials and appliances of all kinds are forthcoming; will coördinate the work of the different military branches, combatant and medical, as well as the sanitary organisation of the country occupied, if any such exists; will initiate schemes of general sanitation; and will visit and inspect stations, and advise local authorities. This small, actively mobile, and responsible committee will deal with sanitary matters in a business-like way, and as it will act immediately under the orders of the general-in-chief, its decisions and recommendations should be promptly and effectively carried out.

At this time of day there is not so much need to dwell on the importance of sanitation for the effectiveness of warlike operations as was the case some years back. A striking instance of the coexistence of the highest military efficiency with at the same time the highest degree of health of the troops, resulting from close attention to sanitation, was recently given by Sir A. KEOGH, Director-General of the Army Medical Service, in an address to the Royal Sanitary Institute. The 7th Dragoon Guards served in Flanders from 1742 to 1747. "During this period it is related of this regiment that it never lost a man by desertion, never had an officer or man tried by general court martial, never had a horse or man taken by the enemy, that it lost but six men by sickness, and had no fewer than 37 of its N.C.O. and men promoted to commissions for distinguished conduct" The colonel, Sir JOHN LIGONIER, had the highest reputation as a fighting soldier and also as a strategist. Moreover, "it is related of him that such was his anxiety for the welfare of his men, that he maintained an additional medical officer in his regiment at his own cost." During these five years in Flanders, when other regiments suffered severely from scurvy, dysentery, and fevers, in this regiment only six men died of disease. As Sir A. KEOGH said, this incident of military history is as brilliant an illustration as can be given of the connexion of sanitation with efficiency in war. But, as the history of medical matters in the army during the latter half of last century shows, it had been forgotten. We may hope, however, in future campaigns, to chronicle similar successes of preventive medicine, now that there is a better chance of the medical voice being heard.

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The Prevention of Hæmorrhage in Amputation of the Hip.

AMPUTATION at the hip-joint was not so very long ago one of the most serious and most fatal of all operations. When performed for severe injury to the thigh as a "primary amputation" it almost always ended fatally. In all the 12 cases in which this operation was done in the Crimean war death resulted and in 30 cases after gunshot injury, which were collected by LEGOUEST, all terminated fatally. The results were not so unsatisfactory when the amputation was performed for disease, though here, too, the death-rate was high, for of 42 cases collected by ERICHSEN 18 died. The causes of this enormous mortality were three in number: they were shock, hæmorrhage, and sepsis. Sepsis need no longer trouble the surgeon. From the time of Lord LISTER's epoch-making discovery the risks from sepsis even in operations of the magnitude of amputation of the hip have almost disappeared, provided the surgeon knows, appreciates, and practises the principles of aseptic surgery. It is only in a secondary amputation after severe trauma that the risk of sepsis is at the present day appreciable. The two other dangers, shock and hæmorrhage, still remain. Some recent writers have endeavoured to prove that collapse from hæmorrhage and shock are identical, but in prophylaxis and in treatment it is well to distinguish between them. In both there is a great fall of blood pressure. In shock it is produced reflexly by severe nervous impulses affecting the vaso-motor centre; in hæmorrhage it is produced directly by loss of blood. In amputation of the hip the shock must be great, for the nerves cut through are many and large. It is true that anæsthetics do to a very great extent reduce the shock of so great an ablation of tissue, and the continuous infusion of saline solution during an operation is of great value in maintaining the blood pressure, both when there has been much hæmorrhage and when there has been little. It is, however, in the direction of the prevention of hæmorrhage in amputation at the hip-joint that most work has been done and it is both interesting and profitable to consider the various devices that have been brought forward.

One of the earliest methods was brought into use with the transfixion flap operation. The fingers of an assistant were passed into the wound and compressed the femoral vessels against his thumbs without the flaps. This device has a great effect in controlling the bleeding from the femoral artery and vein, but the hæmorrhage from the branches of the internal iliac artery remains unaffected. The aortic compressor of PANCOAST or of LISTER effectively controls the arterial hæmorrhage but it has no effect on the venous bleeding, for it hardly compresses the inferior vena cava. Moreover, a further great disadvantage is that it is difficult to apply the instrument exactly over the right spot, and if this be not done greater pressure than is needed is liable to be applied, and thus severe damage may result. The aortic tourniquet is almost disused at the present time. Mr. RICHARD DAVY, consulting surgeon to the Westminster Hospital, devised a wooden lever which, introduced by the rectum, was employed to compress the common iliac artery. When rightly applied it was very efficient but it was never adopted to any great extent and it is now almost forgotten. TRENDELENBURG compressed the femoral vessels by passing a strong steel pin behind the tissues in front of the femur and winding an elastic tube round its ends in a figure-of-8. This controls well the hæmorrhage from the femoral vessels, but not the bleeding from the gluteal or the obturator vessels. JORDAN LLOYD'S method consists of the application of a rubber bandage round the hip; it is held in position by means of cords grasped by an assistant; it is very effective, for it exercises almost complete control on the hæmorrhage from all sources. In WYETH'S method a rubber tourniquet is applied round the hip; it is prevented from slipping down by means of two strong steel rods which are passed through the soft tissues on the inner and outer sides of the thigh. This is a very satisfactory method, and it is much more widely used in America than any other device. The loss of blood is minute. In SENN'S bloodless method the head and neck of the femur are first bared through an external excision and a pair of forceps is carried behind the femur to an opening on the inner side of the thigh, and then withdrawn grasping a rubber tube, which is employed to constrict the tissues in front of and behind the bone. The forceps of LYNN THOMAS also deserve mention, where one blade is entered from the outer side behind the femoral vessels and the other blade is placed over the skin, so that the vessels are clamped between the blades.

Many of these procedures are satisfactory and in careful hands will give good results, only a small quantity of blood being lost. Most of them are, however, impracticable if a growth exists very high up in the thigh. The hæmorrhage in an amputation at the hip-joint comes from the common femoral artery and its branches, and from the gluteal, sciatic, and obturator branches of the internal iliac. Any pressure to be effective must be made either on these vessels or on the common iliac artery from which they originally start. Pressure through the abdominal wall is liable to be inexactly applied and it may easily be excessive. In 1894 MCBURNEY of New York had to amputate the thigh of a boy for a large tumour of the right femur reaching quite up to Poupart's ligament, so that it was impossible to employ any constriction method of controlling the hæmorrhage, when it occurred to him that the most efficient method of applying compression to the common iliac vessels would be through an abdominal wound. A small incision was made as if for an appendicectomy, and the vessels were compressed during the amputation, with the result that the loss of blood was very small. Both the iliac artery and vein are compressed and thus loss of both arterial and venous blood is prevented. The additional risk of the abdominal incision is in competent hands almost negligible, especially when the diminution in the loss of blood is taken into account. The method is sound and it should be more widely known. Even in America it is very little used and in this country it is hardly ever employed. We are glad, therefore, to be able to publish in this issue of THE LANCET reports of two cases of growth of the thigh in which it was employed: in one case under the care of Mr. E. W. ROUGHTON and in the other under that of

Mr. T. P. LEGG. In each instance the loss of blood was very small and rapid recovery followed the amputation. The only requirement is an assistant competent to carry out an aseptic laparotomy. It is probable that surgeons in general have not been aware of the existence of this method, otherwise it is certain that it would have received greater recognition than it has up to now. It is more in accord with modern surgical principles to apply a force directly where it is required than to trust blindly to a pressure extending over a wide area, where it may be not merely useless but even actively harmful.

Annotations.

"Ne quid nimis."

THE RECENT POOR-LAW REPORT: THE SPECIAL INVESTIGATION BY DR. J. C. McVAIL.

THE large scope of the inquiry, taken with the limited time at the disposal of the recent Royal Commission on the Poor-laws and Relief of Distress, rendered it expedient for the Commission to adopt numerous and where possible concurrent methods of collecting information. Certain aspects of the matters referred to them appeared to require for their elucidation local investigations in typical districts of a sort which they were unable to undertake personally. From time to time, therefore, they appointed a number of special investigators who furnished them with a series of reports on the various subjects of inquiry entrusted to them, and no doubt these reports will in due time see the light of publicity. To one special investigator, Dr. John C. McVail, county medical officer of Stirlingshire and Dumbartonshire, the responsibility was committed of reporting upon the "methods and results of administering indoor and outdoor Poor-law medical relief in certain unions in England and Wales," a fairly large reference, and Dr. McVail's report, a large blue-book, made its appearance on April 1st. To a certain extent the main recommendations of Dr. McVail's report are well known to those who have studied the Majority and Minority Reports of the Commissioners, for in both reports prominence is given to the views which he has expressed. Indeed, it may almost be said that up to a certain point the Majority Commissioners adopted Dr. McVail's views in respect of the foundation of a Public Assistance bureau, for they state definitely in that section of their report where they review the system of medical assistance to the poor that they are quoting largely from Dr. McVail. The Commissioners, however, do not go so far as Dr. McVail. They do not, for example, add to their provident scheme the inducement of systematic but infrequent medical inspection, while they view with more complacency than Dr. McVail the suitability of the public health authorities of rural England to take over by some scheme of fusion all the duties which now fall under the Poor-law. Dr. McVail's report deals with the medical aspects of pauperism from the preventive side; he is particularly anxious to prevent hereditary pauperism by taking proper charge of the children of widowed mothers and by attending properly to the health of all Poor-law children. His report, which we shall notice shortly with more detail, is a very valuable document, as no doubt the Commissioners, for whom it was written, considered it.

EMANATION AND ELECTRON.

SOME further light on the nature of the radium emanation is thrown by the recent work of Sir William Ramsay, K.C.B., and Mr. R. W. Gray, the results of which were presented to the Chemical Society at its meeting on March 18th last. There are many who are interested in the subject yet who have a vague idea as to what the emanation regarded physically really is. Sir William Ramsay speaks of it as a gas which he and his colleague have been able to prepare in a sta of purity and now they have succeeded in obtaining it in t form of liquid in sufficient quantity for making observatior The liquid is described as colourless, but viewed by its ov illumination even in broad daylight it is visible as a greeni or bluish-green phosphorescent layer, not very luminous, b more luminous than the gaseous layer. When, however, t tube containing it is touched with cotton-wool moisten with liquid air it turns brilliant; the colour changes to bright steel blue and it blazes with light. Continu application of liquid air changes the colour first to whit then to yellow, and finally to orange. Under the microsco it looks like a brilliant arc light. On removing the liqu air the reverse change occurs, the orange light becom yellow, then white, and then blue, and "there seems to some sort of disturbance in the tube, as if crystals of a sol were disintegrating; then appears the faintly phosphoresci liquid, and if the volume be large enough the still mo faintly phosphorescing gas." These changes can be produc again and again and were witnessed by several persons in t laboratory and "there is no doubt that the substance whi is brilliantly luminous is a solid." In his presidenti address, delivered before the Chemical Society at its annu general meeting held on March 25th, Sir William Rams referred to his researches which had indicated that the eman tion had degraded on a minute scale some copper salt in lithium. He had no reason for believing that there was a fallacy in the experiment, for he had taken all the preca tion it was humanly possible to take to exclude the adve titious entrance of lithium. Later his experiments indicat that thorium was capable of engendering carbon dioxide, c in other words, that carbon was one of the degradation pr ducts of thorium. He, however, admitted that many mo experiments would have to be tried before any positive stat ment could be made that certain elements when exposed "concentrated energy" underwent degradation. These ar other investigations he thought gave strength to the hyp thesis that the genuine difference between elements was d to their gain or loss of electrons. To state it simply, an atom of sodium gained or lost electrons, would it be st sodium as we know it, or would it be another elemen In that case it would appear to be reasonable to regard t characteristics and properties of elements as not so much function of atomic weight as of electrons. In other word it is the electron that decides the resolution of the protyl or matter that is null and void into a recognisable entit The "primordial stuff" as the common origin of all element and indicated in Prout's hypothesis nearly a hundred yea ago, thus receives a somewhat remarkable revival. Hyp theses have been buried longer than Prout's hypothes which have since received the dignity of theory because the proved to be a reasonable interpretation of facts in t light of modern research.

A REVIVAL OF POPULARITY IN THE FRENCH MEDICAL SCHOOLS.

FROM the recently published statistics of the numbers c medical students at the commencement of each year in th various French medical schools it appears that whereas th numbers had been steadily falling until 1906, when the reached their lowest point, there was last year a remark able increase of more than 900, part of which was du to foreigners, whose numbers increased from 648 t 819. These have again increased to 961 in Januar of the present year, though the number of Frenchmen ha shown a decrease, being 7320, against 7538 last year. Thes figures, though large, are still considerably below thos reigning 13 or 14 years ago, for in 1895 there were 8916 students altogether, 7779 Frenchmen and 1137 foreigners. On looking through the list it is not surprising to find that by far the largest number of foreign students are Russians, and that these have greatly increased during the last few years, during which there have been troublous times at home. In 1903 there were only 171 Russians, whereas in 1909 there were 592. The contingent sent by Turkey, on the other hand, has fallen from 98 in 1902 to 77 in 1909. The same remark applies to Bulgaria, which only sends 47 this year, as against 101 in 1902. Greece and South America account for more than 20 each, but Great Britain and the United States for only five each. Of course, of all French medical schools Paris is *facile princeps*, the number at present there being over 3500, but Lyons has nearly 1000 and Bordeaux and Montpellier between 600 and 700 each. Few of the foreign students seek the full State diploma which is necessary for the purpose of practising in France. Many, however, take the University degree which does not give any right to practise; 46 such degrees were conferred during 1908. The old diploma of *Officier de Santé* has not been given now for many years, and a foreigner wishing to practise in France must go through the whole course and pass all the examinations which a Frenchman has to pass, no credit being given for any study or examinations already gone through in his own country.

THE UNUSUAL MARCH WEATHER.

THE following table showing the temperature, rainfall, and sunshine for the three weeks, Feb. 28th to March 20th, 1909, is interesting in connexion with the widespread sickness of influenzal type in many parts of the country and especially in London:—

	Mean maximum temperature.	Mean minimum temperature.	Mean temperature.	Difference from average.	Days with rain.	Total fall.	Sunshine.
	°	°	°	°	*	Inches.	Hours.
London, Westminster	41	31	35·7	– 5·5	17	2·0	30
Glasgow	41	32	36·1	– 3·5	9	1·2	41
Leith	41	31	35·8	– 4·8	17	2·0	49†
Dublin	43	33	38·0	– 4·9	14	1·5	77
Manchester, Prestwich	40	29	34·4	– 5·4	9	1·0	36
Liverpool	40	31	35·4	– 6·1	12	1·1	77
Birmingham ...	39	29	33·6	– 6·2	9	2·2	27
North Shields ...	41	30	35·0	– 5·0	17	2·4	?
Yarmouth	39	31	35·0	– 4·4	13	1·4	52
Hastings	39	32	35·7	– 5·6	17	2·5	56
Ventnor	43	33	37·6	– 5·1	16	2·0	77
Plymouth	44	33	38·4	– 4·7	16	3·7	73
Falmouth	43	34	38·5	– 5·2	17	3·6	81
Cardiff	41	30	35·0	– 6·6	16	1·7	60

* A day with at least 0·01 inch.
† These sunshine values are for Edinburgh

A very superficial examination of the above figures for temperature is sufficient to demonstrate the unusual character of the weather for the first three weeks of March, during which sufferers from influenza increased so greatly in number. The places chosen for the above table are all cities or large towns, but they represent equally well the whole kingdom. The coldest week of the three was the first, when the defect of mean temperature over a large portion of the country was between 9° and 12°, while the duration of sunshine was much below the average, and rain, sleet, or snow very frequent and sometimes heavy. During the second week the weather was also much more cloudy than usual and precipitation very common, and the only amelioration during the third week was that over the western half of Great Britain and Ireland there was a good share of sunshine. The wind came from all quarters in turn, but a harsh current from some point of the compass between east and north greatly predominated. The distribution of sunshine exhibits some rather remarkable features. Dublin, Liverpool, and Ventnor recorded exactly 50 more hours than Birmingham and 47 more hours than Westminster, while those two cities were even less sunny than Glasgow and Prestwich. The south coast was relatively sunless for the time of year, and at Hastings, generally ranking among the brightest spots in the kingdom, there were fully 25 hours less sunshine than usual.

THE PEABODY DONATION FUND.

THE governors of the Peabody Donation Fund have recently issued their forty-fourth annual report, relating to 1908. The history of the progress of the work for which this fund was instituted is always full of interest. The princely donations of Mr. Peabody between 1862 and 1873, to promote the better housing of the London poor, amounted to £500,000, and under the careful and judicious management of the governors of the trust the fund had increased to £1,639,435 (or more than three times its original amount) at the end of last year. Since 1873 the net increase to the fund, mainly from rents but including interest and the special bequest last year by the late Mr. Henry Fox of the value of £27,887, has been equal to compound interest on the amount of the donations at £3 per cent. per annum. The capital expenditure on land and buildings during the same period has amounted to £1,529,432; and the net income last year from rents and interest was £40,295, equal to £2·56 per cent. on the capital of the fund, showing a slight decline from the rate of interest in the preceding year. During last year £12,962 was expended in repairs, &c., to the buildings, the whole of which was, as usual, charged to income. At the end of last year the governors had, by means of the fund, provided for the artisan and labouring poor of London 13,308 rooms, besides bathrooms, laundries and lavatories. These rooms comprised 5665 separate dwellings, including 278 cottages of five rooms, 105 tenements of four rooms, 1834 of three rooms, 2548 of two rooms, and 900 of single rooms. The mean population of the Peabody Dwellings has scarcely differed from 20,000 during the past 20 years, the mean population during last year being 19,914, showing a density of 571 per acre, and nine times the mean density in the whole of London. The fact that the population provided with dwellings by the fund has so long remained practically stationary appears to be due to the governors having in recent years devoted the net income of the fund to repaying the balance of the £390,000 borrowed many years ago from the Public Works Loan Commissioners. It appears, however, from the recently issued report that a site has been purchased in Bethnal Green, nearly an acre in area, and that plans and specifications have been approved for the erection thereon of seven blocks of buildings to contain 350 rooms. The vital statistics of the population residing in the Peabody Buildings during 1908 are, as usual, of a generally satisfactory character. The birth-rate was equal to 27·1 per 1000 and was 1·7 above the mean rate in the whole of London. The death-rate, including the deaths of 77 residents removed to hospitals, did not exceed 12·4 per 1000 and was 1·4 below the mean rate in London, and the rate of infant mortality was equal to 116 per 1000, exceeding by 3 per 1000 the mean London rate. This slight excess of infant mortality was quite exceptional, as in the past five years the deaths of infants under one year of age in the Peabody Buildings does not appear to have averaged more than 96 per 1000 births, whereas in the whole of London during the same period it averaged 128 per 1000. All systematic attempts to deal with the housing of the poor are of the first interest to the medical profession, and the latest report of the Peabody Donation Fund makes very satisfactory reading.

A LITHOKELYPHOPÆDION.

THE fact that a fœtus the result of an extra-uterine gestation could be retained for many years in the abdomen was recognised by many of the ancient writers on obstetric medicine. It is said that it was known to Albucasis, the Spanish physician, who died in 1122, although von Siebold makes no mention of this in his account of the works of this writer. Cordæus, in his commentary on the works of Hippocrates published in 1585, records the first authentic case, attributed to Albosius, in which the fœtus was converted into a lithopædion and retained in the abdomen 28 years, and numerous instances of the same kind can be collected from the literature. One of the best known of the lithopædions described by the older writers is the one to be found in the Gynæcia of Israel Spach, 1595, who gives a figure showing the lithopædion *in situ* in the abdomen. In his description of the monster, as he thought it was, he asks, "How comes it that by a reversal of things the tender body of a little babe has limbs near akin to stone?" referring to the classical myth that Deucalion, who in Greek legend corresponded to the Biblical Noah, and his wife Pyrrha after the Flood were commanded by Zeus to throw behind them the bones of their mother—namely, the stones of the hill side—and from those thrown by Deucalion sprang men and from those thrown by Pyrrha sprang women. In 1881 Kuchenmeister recorded his celebrated case in which the calcified fœtus had lain in the abdominal cavity of a woman for 57 years, and collected all the cases to be found in the literature from the year 1582 up to 1880. In 1897 J. G. Clark published a case in which he removed from the abdominal cavity a fœtus weighing 4¾ pounds which had been retained some four years after the date of the rupture of the gestation sac, the patient making a perfect recovery. Most of the tissues of the fœtus had undergone saponification, but there was calcification of an enveloping membrane, probably the amnion, and some calcareous deposits were found in the skin and lungs. This is the largest lithopædion removed by operation in which the patient has recovered. In an interesting *résumé* of Kuchenmeister's paper Clark points out that the case of Varnier and Mangin was the first in which a twin pregnancy existed with the formation of a lithopædion. In 1802 von Weinhardt not only correctly diagnosed a case of extra-uterine pregnancy but operated and removed the calcified fœtus, the woman making a good recovery. In 1821 Bonisch successfully performed the first operation for the removal of a lithopædion by the vagina. In THE LANCET of March 27th, Mr. J. Lionel Stretton has described a case in which he removed during the operation of ventral fixation in a patient, 54 years of age, a globular mass from the left broad ligament. The lump of smooth surface and stony hardness measured 5 inches by 3 inches and on sawing it through was found to contain the well-preserved body of a fœtus of about four and a half months development. This may be an example of what Kuchenmeister termed a lithokelyphos, that is an instance of calcification affecting the membranes of a retained fœtus, the latter as a rule showing only signs of mummification. He limits the term lithopædion to those cases in which the fœtus itself shows signs of calcification beginning, as a rule, in the vernix caseosa and, as in Clark's case, affecting ultimately some of the internal organs as well. Cases in which the calcification affecting the membranes spreads to the skin of the fœtus he terms a lithokelyphopædion. No doubt this is the commonest variety of the so-called "stone babies" of the older writers, since a true lithopædion in which the calcareous deposits are limited to the fœtus is uncommon. It is very likely, indeed, that Mr. Stretton's case is in reality an example of lithokelyphopædion, although no definite information is given as to the presence or absence of calcareous deposits in the skin of the fœtus. It seems clear that in the great majority of these cases the calcification begins in the membranes and affects the body of the fœtus secondarily, and probably in every case the fœtus is the product of an extra-uterine gestation.

WESTERN MEDICAL TRAINING FOR THE CHINESE.

THE awakening of the latent potentialities of the Chinese nation has of late occupied a considerable amount of public attention both in this country and on the Continent, and men capable of appreciating the fire of industrial and perhaps military energies which the present generation is likely to see lit in China are keenly alive to the necessity of securing that the approaching flame shall be confined to the illumination of that ancient empire and shall not threaten Europe with a conflagration. There are no two opinions as to the means of securing this end. Education as opposed to technical instruction affords the only safeguard. The education of the hundreds of millions of people who form the Chinese nation in European morals and ideals must go hand in hand with their instruction in European industrial arts and science if Europe is to watch the kindling of the fire throughout China without apprehension of the ultimate consequences. It would hardly be within our province to speak on a momentous international issue were it not that two important schemes which have been recently laid before the British public to deal with it have both put the medical education of the Chinese in the forefront of their proposals. The reason is not far to seek. Up to the present time Christian missionary enterprise has formed the one link between the interior of China and the civilised world; progress has been slow, but where it has been made at all it has nearly always been due to the establishment of a mission hospital and to the appreciation of the skilful and painstaking treatment which the Chinese countryfolk have received at the hard-working hands of the medical missioners. Small wonder, then, that the prominent citizens of our country who are concerning themselves with the direction of the approaching Chinese renaissance are asking that the torch of learning in the East shall be lit at the lamp of Western medicine. The body which is moving most prominently in the matter is the China Emergency Committee, which held a Mansion House meeting on March 16th under the presidency of the Lord Mayor, who is one of its members, when an appeal was issued for £100,000, of which £40,000 are required for the establishment of medical colleges for the Chinese, to be administered, staffed, and supported by the various existing missionary societies; £40,000 are wanted for training the Chinese in the methods of teaching under Christian influences without imposing religious tests, and £20,000 for supplying Western literature in the vernacular. In an explanatory letter to the *Times* on the morning of that meeting Mr. F. W. Fox, Sir Percy Bunting, and Mr. J. B. Paton, members of the committee, stated that China is in the course of establishing throughout her provinces universities and schools devoted to Western learning, and that the present is from absorption very rarely occur. A few weeks ago we commented on the value of iodine colloid in the treatment of anal sinuses, and Mr. Tatchell's communication forms a further proof that iodine is a very powerful antiseptic, which is hardly used as much as it might be in modern surgery.

TENEMENT HOUSES FOR THE TUBERCULOUS IN NEW YORK.

We are indebted to the *New York Times* for an account of a scheme initiated in that city by Mrs. W. K. Vanderbilt, senior, who desires to make provision for poor families containing a member or members suffering from tuberculous disease, so that the worker may live with his relatives in sanitary surroundings within reach of his work. Slum-dwellings and houses divided into small tenements in ordinary circumstances in New York, no less than with us, are hot-beds in which the disease cannot be arrested in the individual or prevented from spreading to others, and it is felt that charitable treatment in country sanatoriums must be temporary and ill-adapted to the necessities of those whose dependents require the assistance of their labour. For these the ordinary tenement fails to provide a reasonably wholesome dwelling within the confines of the city, although it is recognised to be a profitable investment for its owners, and neither municipal nor private enterprise appears heretofore to have erected anything approaching to what is required in its stead. For this reason the charity of Mrs. Vanderbilt is directed towards the achievement of something more than the mere building at her expense of sanitary flats for 300 or 400 families. Her object is to show, by an experiment on a large scale, that such accommodation may be constructed and managed so as to save human lives and at the same time bring in a reasonable return for the capital involved. Should she succeed in demonstrating this her example will, no doubt, be [illegible] it is quite possible that she may do [illegible] The plans and elevations of her proposed buildings [illegible] not indicate any lavishness of expenditure on ornamental details or on fads extrinsic to the result aimed at. The site selected is suitable without being of an extraordinary character and lies in the middle of the island formed by the intersection of Avenues A and B with Seventy-seventh and Seventy-eighth-streets, having at one end of it a small public square and at the other a school playground, and on its two sides the streets named. The proposed buildings are to be divided into blocks of moderate dimensions, having six floors, including that on the ground level, built round rectangular courtyards at the corners of which are to be staircases open to the air by which the "apartments" or small flats of from two to five rooms are to be approached. Each of these will open directly upon a staircase and will have at least one window facing outwards and another looking into the courtyard, so that it will always be possible to obtain a current of air through the tenement. Moreover, each courtyard is to be entered by two open arched entrances extending upwards from the ground to the level of the ceilings of what we know as the first floor, which should have the effect of making the courtyard an effective air-shaft. The windows of the rooms are to be of good size, those on the outside opening from floor to ceiling and leading out to balconies. Every flat, as it will have at least one outside window, will thus have a balcony, and the tenants are also to enjoy the common use of a roof garden at the top of the block, on which shelters will be provided and other inducements designed to promote out-of-door life as far as possible. There will be no common halls or rooms inside the buildings, these being regarded as an insanitary and noxious feature in the ordinary New York tenement house. The scheme has been matured and its sanitary details formulated under the advice of Dr. Henry L. Shively of the Tuberculous Clinic of the Presbyterian Hospital, and it is hoped that he and other medical men will be able to find for the flats abundant tenants of the class for which they are intended. The enterprise appears to be a sound one, entered upon in a business-like spirit and without ostentation, and if, as is suggested, it can be carried out so as to afford some small annual interest to the generous lady who finds the capital it may lead to the development on a larger scale of sanitary houses for the general benefit of, the working poor of the city. Much, however, will no doubt depend upon the goodwill and intelligence of the families who will inhabit the dwellings. Those actually affected with disease, having, perhaps, had experience in sanatoriums and having actually lived under conditions enforced by medical supervision, will, no doubt, understand how to avail themselves of the opportunities afforded, and it is to be hoped that their families may coöperate with them in giving free access to fresh air and in the maintenance of habits conducive to sanitation. Such habits will probably be new to many of them, and we are given to understand that their adoption will be the subject of advice, but not, or only to a limited extent, of compulsion. The free passage of air outside each tenement by means of open staircases and courtyards (of which, by the way, we have many examples in London) will be a benefit common to all and incidental to their occupancy, but the opening of windows and the use of the balcony and the roof garden will be matters for the exercise of individual discretion. The windows which lead on to the balconies are an important and characteristic feature, and when the commercial aspects of the venture come to be considered by the light of experience it will be interesting to ascertain whether the surface of glass implied is a source of appreciable extra expense, and how it affects the question of warming the rooms of poor people in the more severe periods of a New York winter. No doubt heating combined with free ventilation will be aimed at, but the question of how the warming is to be done is rather lightly touched upon in the account before us when we consider that the tenants are likely to desire in a "cold snap" the maximum of warmth with the least possible personal expenditure upon its attainment, and also that where the conditions of life in a particular set of rooms are according to the will of its occupants, facilities for the admission of fresh air may coexist with its rigorous exclusion.

THE INFLUENCE OF REST IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

In another column we publish a paper by Dr. E. E. Prest on Graduated Rest in the Treatment of Pulmonary Tuberculosis. The writer very properly points out the importance of rest as a therapeutic factor, but in our opinion he rather exaggerates the state of affairs which has hitherto existed when he says that the "rest factor has been in the past ...... far too much obscured." By some observers rest has been too much insisted upon, the patients being allowed to take but very little exercise, and that only of one kind, namely, walking. Dr. Prest, however, makes some valuable comments on the conditions which demand rest and his paper is a useful adjunct to what has been written on "graduated labour." In fact, he makes the somewhat paradoxical, though correct, statement: "Graduated rest may be the same thing as graduated exercise or graduated labour," but insists "there is a difference in the emphasis." The truth of the matter is, that for success in the treatment of pulmonary tuberculosis "graduated rest" and "graduated labour" must go together. The principles of the "graduated labour" treatment were well laid down by Dr. M. S. Paterson, medical superintendent of the Brompton Hospital Sanatorium at Frimley, in a paper read before the Medical Society of London,[1] and he has since shown that if an excess of auto-inoculation has taken place this can be best met by placing the patient under *absolute* rest—that is, by observing the same precautions which are adopted in cases of typhoid fever. Exercise and labour cannot be prescribed unless the temperature is normal, and until such a condition obtains, rest, as Dr. Prest insists, is of prime importance, and if exercise is permitted or indulged in too soon harm will surely follow.

"TEA" VENIENTE DIE.

IT is often asked whether the early morning cup of tea is permissible having regard to the chemical qualities and physiological effects of that beverage, especially under the particular conditions of the human organism after a night's rest. The early morning cup of tea is a source of comfort and refreshment to a good many persons when the mental and physical faculties are in a more or less lethargic state. To them a cup of tea is helpful in giving them, so to speak, a species of courage to face once again the demands and tasks of the day, and that being so it is superfluous for physiology and chemistry to preach that the practice may be beset with troubles connected more or less with the gastric machine. It can hardly be supposed that people who habitually enjoy their early morning tea suffer from any unpleasant symptoms or effects or they would discard the luxury, but, on the other hand, it is conceivable that in some cases mischief in the long run may ensue. It appears to be generally admitted that when tea is harmful at all (and we assume that it is a delicately infused and not long-boiled preparation that is chosen) it is when it is taken without food—that is to say, when the stomach is empty. That is a period when obviously the astringent substances of the tea may act more effectively as irritants to the mucous lining of the stomach and therefore excite a condition of chronic gastric catarrh. Happily, however, it is the custom of most persons to take milk with their tea, which, unless the tea is objectionally strong, neutralises the tannin substances and thus precludes their acting as irritants. The most cogent argument against the early morning cup of tea is that, as in so many cases at all events, the tea is swallowed before the mouth and teeth are cleansed, the septic potentialities accumulated in the mouth overnight are washed into the stomach, and a poisoning process in the system might thus easily be begun. This is not improbably a source of gastric catarrh in some individuals who drink their early morning tea before they leave their bed. The mouth, of course, should be clean before food, and especially before warm drink is indulged in. There is, perhaps, another reason why the institution of the early morning tea is popular, and that not a physiological one. Its preparation implies the stirring betimes of the domestics of the household, but this is a side of the matter which hardly calls for attention in our columns.

GANGRENE OF THE BREAST IN DIABETES.

IN the *Australasian Medical Gazette* for January Dr. H. Swift has reported a rare complication of diabetes—gangrene of the breast. On Oct. 6th, 1906, at 1 A.M. he was called to a woman, aged 64 years, whom he had attended at intervals for diabetes and attacks of angina. She complained of intense pain in the region of the left nipple, which she described as like the sensation of a red-hot iron being bored into the breast. The temperature was 102·6° F. and the pulse was 120 and of fair volume. No definite history of injury could be obtained, but she remembered that a swinging door had struck her on the left side some weeks before. About one and a half inches below and to the outer side of the nipple was a very tender bluish spot of the size of a florin. Morphine was injected and boric fomentations were applied. At 9 A.M. there was a distinct gangrenous area about two and a half inches in diameter with large blebs forming over it. The urine was scanty and of specific gravity 1055, and contained a large quantity of sugar and diacetic acid. Milk diet and half a grain of morphine every four hours were prescribed. The gangrene spread until on the 10th there was a line of demarcation around an area six inches long and four inches wide. The temperature ranged from 100° to 103°. On the 11th a fœtid slough was separating and a new focus of gangrene was extending towards the sternum. The general condition was so serious that the case was regarded as hopeless. However, on the 13th the patient was a little better, and a line of demarcation had formed around the new focus which was about three by two inches. The amount of urine increased and on Nov. 1st it contained no sugar. The two areas coalesced into a large discharging one measuring seven by four inches. All sloughs separated and the wound granulated well and healed with a sound cicatrix. It is remarkable that gangrene should have occurred in a part so near the heart where, unlike the foot, there is no difficulty in the circulation. The disappearance of the sugar from the urine is also noteworthy. It has been observed, however, that the supervention in diabetes of some other disease, such as enteric fever, may be followed by disappearance of the sugar from the urine. Possibly the fever which accompanied the gangrene in this case produced a similar result.

AN EPIDEMIC OF 135 CASES OF ACUTE ANTERIOR POLIOMYELITIS OCCURRING IN VICTORIA IN 1908.

DURING April, May, and June of last year an epidemic of anterior poliomyelitis, far exceeding any previously recorded in the Southern Hemisphere, occurred in Victoria, and Dr. H. Douglas Stephens of the Children's Hospital in Melbourne has epitomised its main features in the *Intercolonial Medical Journal of Australasia* for November, 1908. The disease has been spreading widely during the last four years. In 1905 it was epidemic in Queensland, in 1906 in Norway and Sweden, in 1907 in New York, and in Victoria in 1908. In this last there was a preponderance of male children affected. Nearly two-thirds of all cases occurred in the first three years of life. The disease selected the autumn months (March to June) as the period of greatest incidence, and the majority of cases occurred in children living in the most densely populated suburbs round Melbourne. Dr. Stephens believes that the disease is contagious in a mild degree, and from his observations made during the epidemic he finds the incubation period to be somewhere between three and 16 days, while the invasion stage varies from zero to a week, most commonly from 24 to 72 hours. In seven cases out of 26 recent cases in which lumbar puncture was obtained, cultures of cocci in pairs and tetrads were successfully grown from the cerebro-spinal fluid. These gave a pale lemon-yellow growth, but injection into rabbits and guinea-pigs caused no pus production. Direct examination of the centrifugalised fluid in smears in five cases revealed the presence of poorly staining cocci, extra-cellular, and generally as diplococci, analogous to those obtained by Geirswold in the Norwegian epidemics. Dr. Stephens found in nearly every case a definite history of premonitory febrile illness, and he remarked that in many instances slight cough preceded the onset of the disease. An examination of the pathological material which he has been able to obtain to some extent corroborates the view of Harbitz and Scheeb that the condition begins by a patchy lepto-meningitis on the anterior aspect of the cord, and that the inflammatory process spreads inwards to the highly vascular grey matter. Out of 135 cases six deaths were recorded, a mortality of approximately 4½ per cent.

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[1] THE LANCET, Jan. 25th, 1908, p 216.

THE EDITORSHIP OF THE LANCET.

DR. SQUIRE SPRIGGE, who has been chief of the editorial staff of THE LANCET for 15 years, has been formally appointed Editor.

IN connexion with the Fifth Centenary of St. Andrews University, the "Mater Studiorum" of Scotland, to be celebrated some 18 months hence, a prize of 100 guineas has been offered by Dr. J. P. Steele of Florence for the best essay on "Scotland's Debt of Gratitude to her Parish Schools, her Grammar Schools, and her Universities," the competition to be open to graduates of the four Scottish seats of learning and the conditions to be announced *quam primum*. One of these conditions requires the essay to occupy not more than one hour on being read aloud. The subject is one of interest to all the liberal professions—particularly to the medical, in which the Scottish record holds a place of honour quite disproportioned to her population and her financial resources.

A PRESENTATION of his portait was made to Sir William H. Allchin on March 31st in the board room at the Westminster Hospital. A large number of friends and old pupils have used this opportunity of signifying their high regard for Sir William Allchin.

WE regret to announce the death of Dr. Arthur Gamgee, F.R.S., the well-known physician and physiological chemist, which occurred in Paris on March 29th after a very short [illegible]

THE DEATH REGISTRATION AND BURIALS BILL.

ON the first of the past month a Bill to amend the law relating to the registration of deaths and to the regulation of burials was presented to the House of Commons by Mr. George Greenwood, with the support of the Right Hon. Sir Walter Foster, M.D., Dr. V. H. Rutherford, Dr. J. G. Shipman, and others.[1]

From an explanatory memorandum we learn that the object of the Bill is to give effect to the principal recommendations put forth by the Select Committee on Death Certification which sat in 1893 under the chairmanship of Sir Walter Foster. That Committee reported that it was "much impressed with the serious possibilities implied in a system which permits death and burial to take place without the production of satisfactory medical evidence of the cause of death. It is a most important duty of society to guard its members against foul play, and it appears to your Committee that, as far as may be, it should be made impossible for any person to disappear from his place in the community without any satisfactory evidence being obtained of the cause of his disappearance. Your Committee, fortified with the weighty opinions of the witnesses who have appeared before them, have arrived at the conclusion that uncertified deaths should, as a class, cease to exist, and that means should be devised whereby a medical certificate should be obtained in every case not certified by a registered medical practitioner in attendance."

This Bill contains, but not always in a fortunate form, several provisions for the improvement of the registration of deaths which, with suitable modifications, we should gladly see placed on the Statute Book, but although based on the recommendations of the Select Committee referred to, the Bill betrays a certain lack of familiarity on the part of the draftsman with the present system of death registration and with what is required for its amendment, having regard to what is either practicable or desirable under existing conditions.

The first clause of the Bill prohibits the registration of any death except under one of the following safeguards—either (1) the proper certification of the cause of death by the regular medical attendant; (2) a coroner's certificate after inquest; or (3) a certificate of verification by the "public certifier of deaths," for the compulsory appointment of which officer in each registration sub-district provision is made in the Bill. In event of the death of a person attended in his last illness by a registered medical practitioner the medical attendant is required to furnish the registrar with a certificate of the fact, as well as of the cause of death. And here it must be noted that under this Bill the present custom of intrusting the medical certificate to the relatives of the deceased for presentation to the registrar is departed from. The certificate is to be sent direct to the registrar, with the intention, presumably, of rendering it a State document, the property either of the Crown or of some public authority to be appointed for the purpose. That this is the intention of the framers of the Bill is clear from Section 3, which provides for the payment of a definite fee for his certificate to the medical practitioner in attendance, whose responsibilities with respect to the case will as a consequence be considerably increased. Under the Bill he will be required to testify not only to the cause but to the actual occurrence of death in each case, and his certificate will not be accepted unless it bears evidence that the practitioner has attended his patient on at least two occasions, one of which must have been within eight days of the death.

A subsequent section of the Bill provides for cases in which no medical practitioner has been in attendance on a deceased person. In the event of the registrar being in doubt as to whether such person has been attended in his last illness by a registered medical man; or in case of his not having received a proper medical certificate within the time limited by the Act; or, again, in case the registrar is dissatisfied with the medical certificate, he is required to communicate with the public medical certifier of deaths, whose duty it thereupon becomes to inspect the body and to furnish the registrar or the coroner, as the case may be, with the necessary "verification certificate."

In the case of a person the cause of whose death is uncertain, or is believed to be due to violence or to other than "natural causes," the medical attendant is required, instead of certifying the death in the usual way, to inform the coroner and also to notify the registrar of his having so done. On receiving this information, and before holding an inquest, the coroner is required to communicate with the public certifier of deaths, who must attend the inquest, and, if satisfied of the fact of death, must furnish the coroner with a verification certificate which will be forwarded by that officer to the registrar, together with his own certificate, for registration in the ordinary course.

Concerning the question of "stillbirths," the compulsory registration of which was strongly recommended in the report of Sir Walter Foster's committee, the only reference contained in the present Bill is to the following effect:—

> For the purpose of the provisions of the Births and Deaths Registration Acts, 1836 to 1901, and of this Act, relating to the registration of deaths and to burials, any stillborn child which has issued forth from its mother after the expiration of the twenty-eighth week of pregnancy shall be deemed to have been born alive and to have died after birth, and not to be a stillborn child, and these provisions shall apply accordingly.

For the appointment of public certifiers of deaths provision is made in the Bill, the only condition of appointment being that the officer should be a registered medical practitioner, and that he should be appointed by the local board of guardians, presumably with the consent of the central authority as regards duties, remuneration, and dismissal from office. It seems strange that almost synchronously with the publication of the recommendations of the Poor-law Commissioners for the universal supersession of Poor-law guardians as the local authorities for purposes of "public assistance" a Bill should be presented to Parliament suggesting an enormous increase in the functions and responsibilities of these much-abused functionaries, whom the framers of the present Bill would apparently desire to invest with a new lease of life.

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[1] See THE LANCET, March 13th, 1909, p. 806.

We have already intimated that, in our judgment, this Bill is badly drawn. Indeed, we can hardly believe that, abounding as it does with manifestly impracticable requirements, it can have obtained in its present stage the approval of the registration authorities at Somerset House. In particular, we note that the time for complete registration of a death is so greatly extended by the Bill that the burial of a body would frequently be unduly delayed. In addition to which the preliminaries to registration appear to be far too complicated for execution by the average type of registrar, whilst the duties imposed on the relatives of the deceased, naturally depressed by bereavement, are unnecessarily vexatious if not impossible of fulfilment Again, in a measure the avowed object of which is to provide for the safety of the community in this respect, we should have thought that definite arrangements would have been included for the registration of stillborn children. But, with the exception of the indirect reference to the subject of stillbirths previously alluded to, the Bill is silent on the point.

Having said so much by way of unfavourable criticism of Mr. Greenwood's Bill, we gladly accord our approval to two of its chief recommendations, both of which seem to us just and reasonable, but which, we fear, will hardly escape opposition by certain economists of the House of Commons. The first recommendation provides for the appointment of a public certifier of death in each district of England; the other, for the payment of medical attendants for their certificates and for the greatly increased responsibilities they would incur in the event of legislation on the proposed lines. We think that in the present temper of the House either of these provisions would suffice to wreck this or any other measure of the kind unless strongly supported by the Government It is certain that, on the one hand, the cost of maintaining a corps of "public medical certifiers" would undoubtedly be considerable, but, on the otherhand, by this means alone can the hardly less cost of holding unnecessary inquests as at present be saved to the community. That our national system of registration, which was established in 1837, should now need amendment will occasion no surprise. But before venturing on any piecemeal tinkering with a system under which enormous improvements have been effected in the course of the last 70 years, it is essential that the whole system of registration of births and deaths should be reviewed, with the advice of persons familiar with the merits of the existing machinery as well as its defects. It would appear almost inevitable that the Acts themselves would need practical reconstruction so as, *inter alia*, to provide for the registration of stillbirths and for the acquirement of fuller data respecting both mortality and natality, in order that amongst other important questions the relation of a declining birth-rate and a stationary infantile mortality may be traced to the physical and social conditions of the people.

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THE REPORT OF THE AMBULANCE COMMITTEE.

In December, 1906, Sir Kenelm Digby, G.C.B., K.C., the Earl of Stamford, and Sir William Collins were appointed by the Home Secretary to form a committee "to inquire as to the provision made for dealing with cases of accident and sudden illness occurring in streets and public places within the metropolis, and to report whether any, and if so what, improvements in ambulance provision are necessary or desirable, and how they could be best effected with due [illegible] led [illegible] the [illegible] maintain or to contribute to the establishment and maintenance of an ambulance service for street accidents in London The House of Commons committee passed these clauses, but the House of Lords committee, though satisfied with the medical evidence as to the need of a good ambulance service, struck them out on the grounds that the financial aspects of the Council's scheme were not made clear in a manner satisfactory to the committee. It was stated, moreover, by Lord Camperdown, the chairman of the committee, in the debate which took place on the third reading of the Bill in the House of Lords that the Home Office was opposed to the Council's scheme. A conference at which the Council, the Home Office, and the police should be represented was then proposed, but the outcome of the discussion seems to have been the appointment of the committee which has now issued its report. This appears two and a half years after the rejection of the Council's clauses in Parliament and eight years after an inquiry by the Council the result of which those clauses embodied, so that it cannot be denied that regrettable delay has taken place, to which the attention of Parliament may usefully be called.

The report in which the committee appointed by Mr. Gladstone explains its views is an interesting but inconclusive document, for unfortunately the committee is not unanimous as to the important question of the selection of a central body to which the duty of organising the ambulance service of London should be assigned. The report, or rather the portion of it for which Sir Kenelm Digby and Lord Stamford must be regarded as responsible, would enlarge the scope of the duties of the Metropolitan Asylums Board so as to include in them the provision of ambulances for accidents and cases of non-infectious illness demanding them, and the working of them with the aid and coöperation of the police. It will be seen that at the inception of its task the committee was not assisted by the terms of its reference, which we cannot help thinking must have been drawn up without due consideration. Strictly speaking, it was limited to the consideration of the ambulance service to be provided for "street cases" (a convenient term adopted by the committee) in the metropolis. Accidents and illnesses occurring in streets and public places obviously do not include those which take place on private premises, such as factories, docks, and railway stations, and the provision of an ambulance service which would omit the care of these would be absurd. The metropolis is presumably definable as the County of London, but the hospitals to which ambulances transport the sick and injured do not draw their patients from so limited an area, and the scope of the inquiry necessarily included the consideration of the services of the metropolitan police in connexion with the transport of "street cases," services which are not denied when cause for them arises on private property. Now the metropolitan police exercise their duties over an area six times as large as that ruled by the London County Council and over which, moreover, a rate is levied for the maintenance of this important body. Questions, therefore, as to the training and employment of the police with a view to their rendering first aid and assisting in the conveyance of injured persons to hospitals could not be discussed either in their practical or financial aspects without reference to conditions outside the "metropolis." The fact that the use of an ambulance is not likely to be confined to street cases has been referred to, but besides these and accidents on private premises there is the demand for means of transport which arises when the poor patient lying ill at home has to be taken to a hospital. Is he to be left for his relatives to convey him in a cab, or cart, or barrow, all of which have been found by the committee to be the inadequate and sometimes injurious vehicles in general use when emergencies arise? However, the committee has interpreted its duties in a liberal spirit, and, while recognising the limits imposed by the authority appointing it, has made inquiries and suggestions which go beyond them. Its difficulties, however, have not ended there, for it has had considerable divergence of opinion among witnesses to deal with, notably upon a point of great importance in the organisation of an ambulance service—namely, the nature and extent of the service to be rendered by those accompanying the vehicle in order to assist in bringing the case to the hospital.

When we come to consider in detail the topics discussed by the committee we observe that it found in existence the following services: that of the Metropolitan Asylums Board, which without legal sanction deals to some extent with non-infectious cases, and by arrangement with the Commissoner

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of Police removes necessitous patients from their homes to hospitals but intervenes rarely in "street cases"; that of the St. John Ambulance Association, which places wheeled litters and other appliances at the disposal of the police and public at 35 stations; 399 litters under control of the police, of which 49 are the survivors of those given by the late Mr. H. L. Bischoffsheim; horsed ambulances belonging to boards of guardians and used almost exclusively for their purposes; and various private and other ambulances and litters owned by dock companies and similar bodies with a view to their own needs. In the City of London it found a recently instituted (i.e., in May, 1907) system of an electric motor ambulance, to which others are to be added, capable of being summoned by means of any of 35 electric street call-boxes, much as a fire-engine is obtained when required, the existing ambulance conveying persons in the western half of the City to St. Bartholomew's Hospital, where it is stationed. This City system constitutes the only publicly organised example of the use of the "rapid ambulance" in London, but the practices prevailing in use in other great cities of England, in Berlin, Paris, New York, and Boston have been studied by the committee, the "rapid ambulance" being the vehicle drawn by horses or propelled mechanically as distinguished from the stretcher or wheeled litter. In addition to such special vehicles as those named the committee finds that the use of cabs, carts, barrows, and other unsuitable methods of conveyance in London is too frequent, that patients suffer through it, and also that it is often due in street cases to impatience, the crowd or the injured person urging the policeman who has the case in hand to "commandeer" the first vehicle obtainable. With reference to the nature of the apparatus for the removal of the street case to the hospital the committee is of the opinion that, given an effective method of summoning it, the rapid ambulance is preferable to the wheeled litter, having regard to the rapidity of its arrival where the patient lies, and of its transportation of him to the hospital. The advantages of its use are increased also by the fact that it admits of skilled assistance and necessary appliances being brought to the patient, to whom assistance, not possible with the wheeled litter, can be rendered during transit.

The nature of the views put forward by witnesses as to the extent of the treatment which should be accorded to the street case may be summarised by saying that some would "bring the hospital to the patient," others being content to convey him with as much speed and with as little preparation as may be consistent with his safety to the hospital. The majority of the views adduced were to the latter effect, including such important opinions as those of Mr. Thomas Bryant and Mr. Henry Morris. The former of these supported his opinion by citing the experience of the Japanese in their late war when no aid but what was immediately necessary was rendered either where the wounded were found or at the field hospitals, but all cases, after the wound had been shut up and covered and bleeding stopped, were taken at once to the base hospitals, this course being pursued with success which was "perfectly astounding." Both the two gentlemen named regarded the sending of a qualified medical man or senior student with the ambulance so as to diagnose or treat the case before removal or *en route* as impracticable and unnecessary, and with this view the committee expresses its concurrence, while pronouncing in favour of the provision of rapid ambulances and proceeding to discuss how they should be provided and organised.

As to the authority which should control the ambulance service the committee had before it the opinion of Mr. Morris that it should be a "street ambulance department of the police," his view being that organised by this central authority the rapid ambulance should reach its destination, bringing a specially trained member of the force who should receive the patient from the policeman on the spot and convey him to the hospital. The committee refers also to the need, dwelt upon in the evidence of Sir William Church, for an ambulance service which would include the transport of poor patients lying ill in their homes to hospitals, and considers that the demand for such a service is established, but that it would add too much to the existing duties of the police primarily connected with the prevention of crime. It finds, however, the Metropolitan Asylums Board already providing means of transit for non-infectior [illegible] these are outside its legitimate sphere, and [illegible] "rapid ambulance" stations established for this purpose. In these circumstances the committee formulates recommendations which may be summarised as follows:—

1. That there should be a tentative and experimental introduction of rapid ambulances so organised as to be capable of dealing with cases other than street cases.

[illegible] .uthorised by Act [illegible] a service of non- [illegible] with the Metropolitan police for this purpose, special provision being made with regard to portions of the Metropolitan police district lying outside the area under the Metropolitan Asylums Board.

3. That the attendant to accompany the rapid ambulance should be a police officer specially qualified, and the committee consider that the difficulty arising out of the fact that the policeman in whatever capacity he is employed always remains under the authority of the Chief Commissioner is not insurmountable. They suggest that, as at Manchester, when the person to be removed is a female the ambulance might obtain a matron from the police station, at which, according to one suggestion made, it would call, in order to pick up a reserve police officer to accompany it. It may be mentioned that considerable importance was apparently attached in evidence before the committee to the provision [illegible]) and extension of the private [illegible] of the Metropolitan Asylums [illegible] r communication between the [illegible] the ambulance station the use [illegible] loes not advise, owing to the [illegible] scale of the special call-box [illegible] commends a suggestion that such call-boxes should be placed in some of the busiest thoroughfares and at the most awkward crossings.

[illegible] of the police in the rendering of "first [illegible] ut capable of improvement, and that their [illegible] xercise of their discretion in summoning [illegible] to any new system introduced.

In this connexion we note the following phrase in Paragraph 118 of the report:—

> In view of the recommendations which we are making we think that the summons of the local doctor in cases of street accidents will be seldom required.

We should have thought that in the event of an apparently serious accident happening, as must sometimes occur, close to the spot where a qualified practitioner is to be found, his services might usefully be requisitioned and that provision might be made for his remuneration in such circumstances. In cases in which the rapid ambulance is about to arrive within a few minutes it would clearly not be desirable to send in search of a medical practitioner who, if found, would be likely to be too late to be of use, but to regard him as non-existent when he is close at hand is another matter.

We now proceed to refer briefly to the memorandum appended to the report by Sir William Collins, who, it must be remembered, although in the minority as to the views which he thus expresses, constitutes "one third" of a committee composed of three members only, and a "third," moreover, pre-eminently endowed with experience relating to (1) the medical and surgical aspects of the questions propounded, and (2) municipal matters. He tells us in his memorandum that he signs the report because he is convinced of the need for action, saying, "As to the urgent necessity for reform the report in no way overstates the case. It establishes the fact that notwithstanding the police policy of extending the provision of wheel-litters, especially in recent years, 60 per cent. of all cases of injured or sick persons conveyed to hospitals in London are brought otherwise than by ambulance or litter. The figures show that in more than one-fourth of such cases definite fault is found with the mode of conveyance, that even in serious cases more than one-third of the sufferers are conveyed by means likely to be prejudicial, that the unsuitable cab is still largely requisitioned, and that actual harm is in 1 out of 3 of the more serious cases attributed to its use." He points out also that except in the City there is no special provision made for summoning even the wheeled litter, and that the use of the telephone for such purpose has not been considered necessary. We may here call attention to the fact that although mechanically propelled vehicles have been with us for some years, and telephones also, it is only recently that a rapid extension of the use of both has taken place, so that the advantages and practicable nature of the combination of the two are now so obvious that they cannot be ignored.

Sir William Collins reviews the circumstances in which the London County Council's proposal to establish an ambulance service was rejected in the House of Lords in 1906, and is of opinion that although it is not possible now any more than then to estimate the ultimate cost of an adequate service of [illegible] for London, such a service should be established [illegible] control of the Council, which has already expressed itself willing to undertake the cost, and, moreover, that it should not be done tentatively, but upon a large scale, by a general introduction of rapid ambulances and not merely their experimental use to supplement wheeled litters. His reasons for preferring the County Council to the Metropolitan Asylums Board as the central authority to control the ambulance service include a doubt as to the desirability of conferring new rating powers upon a non-elective body, which, as he points out, was instituted at a time when no county council was in existence and which was originally constituted as a Poor-law authority. He dwells upon the difficulty suggested by witnesses that however separate the two services of the Board might be kept the public would be prejudiced against these ambulances by fear of infection; he points out that in the necessary establishment of a large number of new ambulance stations the Council would have available sites already acquired by them, but the Board would not. He points out also that the dual authority of Board and police recommended in the report would involve a corresponding duplication of departmental control by the Home Office and the Local Government Board. He would have the ambulances sent out by the Council to deal with street and other cases accompanied by attendants, the servants of the Council, specially trained and instructed in first aid and in handling the sick, who would take over the case from the policeman, the latter being responsible for the summoning of the ambulance only and for the administration of first aid pending its arrival. In conclusion Sir William Collins says: "As to the body to be intrusted with the organisation of what is practically a new service in London, I am of opinion that having set aside the police as the authority the duty should be entrusted to the London County Council, who have sought powers and evolved a scheme for the purpose, rather than to the Metropolitan Asylums Board who have not. Such new municipal duties, involving new rating powers, should in my judgment be a function of the central directly elected municipal authority of London ...... and while anxious that no difference of opinion on the question of the authority should prejudice the early establishment of this sadly needed service, I believe that efficiency and economy would alike be served by procedure upon the lines which I have ventured to indicate." It will be observed that this recommendation is for the establishment of a service within the "metropolis," in accordance with the terms of the reference to the committee, and that it leaves the authorities outside the county of London to coöperate with, or to follow the lead of, the metropolis as may be desired. It is a recommendation which should carry considerable weight, owing to the source from which it comes, and it has many practical and, we may fairly say, obvious advantages to commend it.

The London County Council is the great municipal body to which Londoners are learning to look naturally for the performance of public work in their interests. The relieving of the police of duties so remote from their usual functions as the transportation of injured and sick persons should commend itself to all practical persons, as should the advantages arising from the employment of attendants specially trained for ambulance service and exclusively employed upon it. Altogether, we are of the opinion that Sir William Collins's memorandum deserves and will obtain consideration from the legislature fully equal to that accorded to the views of his two colleagues on the committed upon the points with regard to which he differs from them, and we hope that in any case the legislation which is so desirable may not long be delayed.

UNIVERSITY OF LONDON.

A MEETING of the Faculty of
March 12th, was held at th
March 26th, Dr. SIDNEY H.
Faculty, being in the chair.

The following further recommendations and resolution concerning the suggested
passed:—

The Board shall be constitute
March 1st and not later than
shall remain in office until the constitution of its successor. 28 days

Faculty.

RESOLUTION.

That the Senate be requested to resolve that until further order no action on any of the following subjects be taken by the Senate until they shall have received a report thereon from the Board of the Faculty of Medicine through the appropriate council or councils in accordance with the scheme set out below.—

Subject.	*Appropriate Council*
(a) Recognition of Teachers and Courses of Instruction in Medical Subjects	Academic Council.
(b) Medical Curriculum	Academic Council and External Council.
(c) Medical Examinations, including Appointment of Examiners	Academic Council and External Council.
(d) Admission of Schools in the Faculty of Medicine	Academic Council.
(e) Constitution of the Faculty of Medicine ...	Academic Council.
(f) Organisation of Higher Teaching and Research in Medicine	Academic Council

Professor E. H. STARLING proposed, and Dr. F. H. CHAMPNEYS seconded, the following motion, which was carried:—

That the Faculty Board be appointed in July of this year.

The meeting then dissolved.

MEDICINE AND THE LAW.

An Inquest held without Post-mortem Examination.

AN inquest held recently at Falmouth by the county coroner, Mr. E. L. Carlyon, is the subject of a lengthy report in the *Falmouth Packet*, and the story as told by our contemporary is worthy of comment. The inquiry was into the cause of death of a young man, 20 years of age, apprenticed to a boiler-making firm, who was described by his father as a strong, powerful young man who never had had a day's illness, who never tasted intoxicating liquor, and smoked very little. Two months before his decease he was medically examined before admission to a friendly society and on the day preceding it he seemed well; ate his usual dinner and tea, but went out about 9 P.M., and on his return complained that his forehead felt cold and he vomited repeatedly. His mother gave him some tea and brandy and sent him to bed, after which he was heard retching in his room about midnight, and on his father visiting him at 1.30 A.M. he was found to be dead. Dr. G. E Lanyon who was called in described the condition in which he found the body and gave it as his opinion that the vomiting had caused failure of the heart's action, adding that it was difficult to say why it should have done so, as the deceased was apparently a strong and healthy young man. He added that a possible cause of death might have been the presence of a piece of food in the windpipe, but that the length of time since the deceased had eaten and the absence of any appearance of a struggle negatived this. The father stated that his son had never complained of anything, in reply to a question as to the possibility of his having suffered from a weak heart. The verdict of the jury was to the effect that
failure of the heart's action due to
to see of what use an inquest can
absence of a post-mortem examina-
y necessary to point out that such
t only have shown the condition of
the heart but also might have indicated the cause of the vomiting, for which there was nothing to account except a

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[1] Sections A and B were passed at the previous meeting (see THE LANCET, March 20th, p. 861).

measles slightly exceeded the numbers in recent weeks. The deaths referred to diseases of the respiratory organs in the eight towns, which had steadily increased in the seven preceding weeks from 131 to 187, declined again to 180 in the week under notice, but exceeded by 47 the number returned in the corresponding week of last year. The causes of 23, or 3·1 per cent., of the deaths registered in the eight towns last week were not certified; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had steadily increased in the four preceding weeks from 24·3 to 29·3 per 1000, declined again to 27·2 in the week ending March 27th. During the first 12 weeks of the first quarter of this year the death-rate in the city averaged 25·7 per 1000, whereas the mean rate during the same period did not exceed 19·8 in London and 18·1 in Edinburgh. The 208 deaths of Dublin residents from all causes during the week under notice showed a decline of 16 from the increasing numbers in recent weeks, and included 10 which were referred to the principal epidemic diseases, against 17 and 13 in the two preceding weeks. These 10 deaths were equal to an annual rate of 1·3 per 1000; the rate from these epidemic diseases in the same week was equal to 2·1 in London, and did not exceed 0·9 in Edinburgh. Of the 10 deaths from these epidemic diseases in Dublin last week, five resulted from measles (corresponding with the number in each of the three preceding weeks), two from whooping-cough, and one each from diphtheria, "fever," and diarrhœa, but not one either from scarlet fever or small-pox. The 208 deaths registered during the week included 32 of infants under one year of age and 73 of persons aged upwards of 60 years, differing but slightly from the numbers in the previous week. Five inquest cases and two deaths from violence were registered last week; and 89, or 42·8 per cent., of the deaths occurred in public institutions. The causes of seven, or 3·4 per cent., of the deaths in Dublin last week were not certified either by a registered medical practitioner or by a coroner; in London the causes of all but one of the 1989 registered deaths were duly certified; while in Edinburgh 5·1 of the causes of death were uncertified.

THE SERVICES.

Royal Navy Medical Service.

The following appointments are notified:—Fleet-Surgeons: E. C. Lomas, D.S.O., to Haslar Hospital; W. J. Colborne to the *Leviathan;* J. Menary to the *Magnificent;* and H. X. Browne to the *Ramillies*. Staff Surgeons: C. T. Baxter to Haslar Hospital, as anæsthetist and radiographer; J. H. Lightfoot to the *Cochrane;* L. Lindop to the *New Zealand;* and S. T. Reid to the *Antrim*, on recommissioning. Surgeons: C. J. O'Connell to the *Roxburgh;* T. D. Liddle to Haslar Hospital; H. B. Hill to the *Leviathan;* L. C. Hunt to the *Cæsar;* and G. C. Cross to the *Leda*.

Royal Army Medical Corps.

The date of transfer from seconded list of Lieutenant-Colonel James Will is Feb. 28th, 1909, and not as stated in the *Gazette* of March 2nd, 1909. Lieutenant Marcus Graham Dill, from the seconded list, to be Lieutenant (dated March 14th, 1909).

Captain R. H. Bridges, on return from India, has been posted to the Cambridge Hospital at Aldershot for duty. Major J. Thomson, from Woolwich, has been placed on the list for service on the West Coast of Africa.

Indian Medical Service.

The King has approved of the following promotions:—Lieutenant-Colonels to be Colonels: Charles Fancourt Willis (dated Nov. 14th, 1908) and William Alfred Corkery (dated Jan. 1st, 1909). Captains to be Majors (dated Jan. 28th, 1909): Jasper Maxwell Woolley, Clayton Arbuthnot Lane, Thomas Bernard Kelly, William Hamilton Kenrick, Charles Henry Watson, Edgar Francis Eardley Baines, George Orr Fern Sealy, Samuel Anderson, Francis Hope Grant Hutchinson, James Leslie Marjoribanks, Alexander Fenton, and Robert Welland Knox. Lieutenants to be Captains (dated Sept. 1st, 1908): Edgar John Cecil McDonald and William Dundas Wright; (dated Feb. 1st, 1909): Harry William Pierpoint, Khandu Ganpatrao Gharpurey, William David Henderson Stevenson, Henry Patullo Cook, William James Fraser, Desmond Charles Villiers FitzGerald, Robert Siggins Kennedy, Bernard Higham, Charles Aubrey Godson Reginald Henry Lee, Patrick Heffernan, Henry Stewar Hutchison, Robert George Gibbon Croly, Stanley Trefus Crump, William Barbour Alexander Kennedy Cullen, and James MacGregor Skinner.

The King has also approved of the retirement of th following officer: Colonel James McCloghry (dated Jan. 13th 1909).

Territorial Force.

Yeomanry.

King's Colonials: Surgeon-Lieutenant William Savil Henderson, from the King's Colonials Imperial Yeomanry to be Surgeon-Lieutenant, with precedence as in the Imperia Yeomanry (dated April 1st, 1908). Royal Wiltshire (Princ of Wales's Own Royal Regiment): Surgeon-Captain Oliver Maurice to be Surgeon-Major (dated March 5th, 1909).

Infantry.

9th Battalion, The King's (Liverpool Regiment): Th announcement of the transfer and promotion of Surgeon Major John William Ellis, which appeared in the *Londo Gazette* of Oct. 6th, 1908, is cancelled. 4th Battalion, Th Lincolnshire Regiment: Surgeon-Major George M. Lowe granted the honorary rank of Surgeon-Lieutenant-Colon (dated March 31st, 1908).

Royal Army Medical Corps.

London Mounted Brigade Field Ambulance: Maj (Honorary Major in the Army) Charles Stonham, C.M.G from the Royal Army Medical Corps (Territorial Force), to Lieutenant-Colonel (dated March 5th, 1909). Henry Robin son to be Lieutenant (dated March 5th, 1909). Alexand Findlater to be Lieutenant (dated March 5th, 1909).

2nd East Anglian Field Ambulance: Dudley Willia Boswell to be Lieutenant (dated Jan. 2nd, 1909).

1st Highland Field Ambulance: Arthur Kellas to Lieutenant (dated Feb. 2nd, 1909).

1st Home Counties Field Ambulance: Bertram Charl Alexander Leeper to be Lieutenant (dated Jan. 1st, 1909).

2nd Northern General Hospital: The appointment Edmond Fauriel Trevelyan to the rank of Lieutenan Colonel bears date July 7th, 1908, and not as stated in th *London Gazette* of Feb. 23rd, 1909.

5th Northern General Hospital: Officer whose service will be available on mobilisation: Captain Robert Stewart t be Major (dated Feb. 24th, 1909).

For attachment to Units other than Medical Units.—Captain Edward L. Paton to be Major (dated Sept. 7th 1908). Octavius Roberts Ennion to be Lieutenant (date Dec. 31st, 1908). Alexander Dingwall Kennedy to be Lieutenant (dated Jan. 27th, 1909).

The colonel and officers of the 3rd South Midland Field Ambulance of the Royal Army Medical Corps entertained the Bristol Unit of the corps at a supper on March 20th. Lieutenant-Colonel A. W. Prichard, replying on behalf of the corps to a toast proposed by Captain F. A. Stephens, stated that the corps had risen to its full strength within a year of its inception, and that it was the first corps in the kingdom to become complete without having a bearer company to start with. The origin of this success was rightly analysed by Captain Stephens who spoke of the patriotism of the city in general and the keenness of the officers of the corps. He also alluded to the kindness of Colonel Woodward and the 4th Battalion of the Gloucestershire Regiment in allowing the corps to share the same headquarters, and said that the unit was fortunate in having so many men with a previous Volunteer training, as well as a number who had served as Regulars.

The Army Council has intimated to general officers commanding that the working of the Territorial Medical Service in last year's training season reflects great credit upon all concerned for its thoroughness in face of the many difficulties inseparable from the early stages of reorganisation.

Deaths in the Services.

Surgeon-Major William Galt Black, A.M.S. (retired), on

March 22nd, aged 85 years. He joined the 11th Foot Regiment (now the Devonshire Regiment) as surgeon-major prior to the Crimean war and served through that campaign. He was present at the battles of Alma, Inkerman, and Sebastopol. He afterwards served in Africa and retired from the service in 1863.

VISIT OF THE PRINCE AND PRINCESS OF WALES TO OSBORNE.

On March 27th the Prince and Princess of Wales paid a visit to Osborne. In the evening Fleet-Surgeon C. J. Mansfield, R.N., amongst other officers, had the honour of dining with the Prince and Princess. During the afternoon of March 28th their Royal Highnesses visited the Osborne House Convalescent Home for Officers.

The *Army and Navy Gazette* in its issue of March 27th says:—"We have already alluded to 14 medical officers on the full-pay list having to be provided for by the abolition of retired officers in recruiting and other billets. We are now informed that six additional full-pay officers, on reduction of [illegible] absence of fever, [illegible] by more retired

Correspondence.

"Audi alteram partem."

TIN IN CANNED FOODS.

To the Editor of THE LANCET.

SIR,—I have just read in THE LANCET of Feb. 6th, p. 411, the notice of the recent work issued by the English Local Government Board (Medical Department, No. 7) on the presence of tin in certain canned foods. The subject of tin and other metals in canned foods has long been a matter of interest in this country, and to show the importance of this problem I may call your attention to the action of the National Canners' Association of the United States in convention at Louisville, Kentucky, during the first week in February. At that convention numerous articles were read on the *contamination of tinned goods*, both with tin and other objectionable metals, and resolutions were adopted looking to the betterment of conditions in this line, especially in the coating of the tin plates. It is not my intention in addressing you, however, to discuss this problem in any technical way, but to say a word in regard to the results of the investigations which are reported in the official document of the Local Government Board No. 7, to which I have just called attention. The authors of this paper have kindly sent me a copy thereof and I have been much interested in the character of the work done, the thorough manner in which the investigators have gone about it, and the careful control of all the conditions of the investigation. The remarks on the methods of detection and estimation of metals in tinned foods are of particular value to analysts everywhere. The study of the action of the acids of fruits, &c., upon the plate is also full of interest, likewi [illegible] tin is of value to all [illegible]

Thi [illegible] I desire to say. The pharmacological experiments conducted by Dr. S. B. Schryver were carried out upon himself and upon dogs. Dr. Schryver describes himself as being in normal health. The last paragraph in the third conclusion of Dr. Schryver's paper is as follows:—

> [illegible] robability of serious [illegible] irritant compounds [illegible] canned foods and is [illegible]

It appears to me that this paragraph might have been well omitted. Assuming as true that Dr. Schryver experienced no ill effects from eating tin and that the dogs were not injured by their diet of tin, it seems unwise to assume that it is practically a harmless substance. It is true without doubt that if a drug be administered in foods which injure healthy persons, it is certain that it is not a suitable substance to be put in foods. But drugs may be put in foods which during a short time do not appreciably injure the health of healthy persons, and yet *that is no reason* why they should be permitted. Dr. Paul Ehrlich lately said in an address before the German Chemical Society: "It *is not* enough simply to inject every new remedy into the bodies of animals; in order to obtain more valuable data on the action of the remedy the animal *must* be *sick or* be *made sick* before the drug is tested upon it." In the light of this testimony Dr. Schryver should not intimate that tin salts are not injurious until he has tried them upon infants, sick people, and convalescents. There are millions of people who eat canned foods besides Dr. Schryver, and of these millions a very large percentage have disordered digestion, are not in good health, and are not in a condition to resist toxic effects of even small quantities of tin.

Medical men, in my opinion, should not make statements which may be used, although they are not intended to be so used, to promote and protect, what Judge Anderson of the Federal Court at Indianapolis recently termed, "immoral practices in food preparation." Judge Anderson in one of the cases which was argued before him, in which benzoic acid had been used in foods, referring to the statements of experts that it was not injurious to health, said that he did not care whether it was injurious to health or not; there was a difference of opinion on this subject and the court would not attempt to decide; but further than this he stated that "the use of benzoate of soda is, as the evidence shows, primarily for promoting the utilisation of low grade, partially decayed, and waste materials, and hence it is used for immoral purposes and should not be permitted." The danger which comes from this conclusion of Dr. Schryver is that in the effort which is now making in this and other countries to secure better packages for canned goods those who use imperfect packages, poor tin, exposed solder, &c., will quote just such opinions as *this as a justification of their acts.* I would *not insinuate for* a moment that Dr. Schryver had any such purpose in view, but experts, and especially medical experts, it appears to me, should be *extremely careful to so guard their expressions as* not to see them used thereafter to protect practices which should be restricted. For my part I can see no possibility of any good ever coming from such a conclusion. Nobody wants *to eat tin salts*, whether they have injured Dr. Schryver or not. Every high grade manufacturer wants to keep them out of his goods and everyone who is a guardian of the public [illegible] this kind and dis- [illegible]

[illegible] t right to express the results of their investigations no one will deny, but if, in the expression of these results, encouragement of the continuance of improper practices may be given it would be a wiser thing on *the part of the investigator to withhold them* from publication. The words of the Apostle are most excellent in this case—"All things are lawful *unto* me, but all things are not expedient" (I Cor. vi. 12).

I am, Sir, yours faithfully,
H. W. WILEY, M.D.

Washington, D C., U S A., March 16th, 1909

PROPOSED LEGISLATION IN REGARD TO THE ADMINISTRATION OF ANÆSTHETICS.

To the Editor of THE LANCET.

SIR,—Now that the question of legislation to control the administration of anæsthetics is definitely before Parliament (*vide Times*, March 26th) it is important that the whole medical profession should realise and express an opinion upon the first point which will have to be settled—i.e., who *shall and who shall* not administer a general anæsthetic. All thoughtful persons seem to agree that if we are to reduce the number of accidents in connexion with the use of these [illegible] to decide who shall be intrusted [illegible]

medical profession, and the dental profession—to come to some understanding on this specific point.

The recent correspondence in your columns, Sir, has disclosed the unfortunate fact that, at all events amongst members of these two professions, there is considerable [illegible]
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provisos, for anyone but a legally qualified medical practitioner to administer *any* general anæsthetic. This we may call, for purposes of description, the larger policy. On the other hand, we have those who would make an exception in the case of registered dental practitioners and would allow them to administer nitrous oxide for dental operations. This we may speak of as the smaller policy. At the present juncture, which is one of far-reaching importance, these two policies are before us and it is our duty carefully to consider which of them should be adopted. We must put aside all personal and class considerations and have as our fixed objective the greatest good of the greatest number. The public expects, and the two interested professions should be prepared to provide, the best possible safeguards against those risks which are inseparable from the employment of all agents administered with the object of producing unconsciousness during surgical operations. I regard it as an idle quibble to argue that because nitrous oxide is the safest general anæsthetic it should become the subject of special legislation. It is an agent which, administered in its pure form, is irrespirable, on the average, for more than one minute. In certain cases—e.g., angina Ludovici, Hodgkin's disease, sub-lingual abscess, tracheal pressure from an enlarged thyroid or other causes—it may be more dangerous than any other anæsthetic. Many years ago, in the operating room of a well-known dentist, I had to perform laryngotomy under pure nitrous oxide in order to restore respiration which, owing to certain abnormal conditions in the upper air-tract of the particular patient, could not otherwise be re-established. Only last year, whilst administering nitrous oxide and oxygen for a dental operation to a patient whose tongue had been removed and whose power of swallowing had thereby become interfered with, respiration ceased owing to the entry of fluid secretions into the larynx, and it was only with the greatest difficulty that I was able, with the efficient assistance of my colleague, to restore respiration. Again, in various pathological conditions of the cardio-vascular system nitrous oxide may, under certain circumstances, be an unsuitable or even a dangerous anæsthetic. Apart, however, from any immediate circulatory risk attached to its use there is a certain amount of evidence that when administered so as to produce a greater or less degree of cyanosis this anæsthetic may impose an undesirable and possibly a permanent strain upon the heart. In his admirable work "Anæsthetics, their Uses and Administration," fourth edition, p. 115, Dr. Dudley W. Buxton says: "The heart seems seldom primarily affected, but if feeble and asthenic it is certainly liable to fail should the respiration be in any way hampered, so that syncope can thus be brought about and may prove fatal." I am not for one moment wishing to act as an alarmist in regard to nitrous oxide. I fully admit it is the safest known general anæsthetic and that when administered *in appropriate cases* and *by appropriate methods* it is practically free from risk to life. But as I am firmly convinced, after many years' experience of dental practice, that in order to secure the greatest safety under this agent it is necessary that the administrator should not only have had ample clinical experience in its administration, but at least that amount of training in general medicine and surgery demanded by the General Medical Council of candidates before their final *medical* examinations, I shall, I fear, never be able to see my way to support the smaller of the two policies now before the profession. What greater argument in favour of the larger policy could there be than the fact referred to by Mr. Morton Smale on March 11th last when presiding at the annual general meeting of the Royal Dental Hospital of London, that over half a million nitrous oxide administrations had been conducted at that institution without a single death? Who conducted this vast number of administrations with such conspicuous success? The reply to this question is that acting in the public interests the Royal Dental Hospital of London has always obtained the services of medical men as anæsthetists. With this object-lesson before us, would it be right to depart from such a well-tried custom? Whilst fully admitting that the general medical and surgical training of the present generation of dentists is perfectly adequate so far as the practice of pure dentistry or dental surgery is concerned, I contend, with no disrespect whatever to anyone, that that training, as specified by the General Medical Council, is inadequate for the protection of the public against the risks of general anæsthetics, including nitrous oxide.

Were it impracticable to supply the public throughout the country with well-trained medical men the case would be totally different. One argument which the supporters of the smaller policy are constantly advancing is that, speaking generally, the average dental practitioner is more competent to administer nitrous oxide than the average medical practitioner. I admit that at the present moment there may be some truth in this contention. It could easily be arranged, however, that before any Act came into force all medical students and all medical practitioners who would under the new *régime* be called upon to administer nitrous oxide for dentists should make themselves thoroughly competent administrators. As I have before stated, there is an immense amount of unutilised clinical material at our dental hospitals and in the dental departments of our general hospitals which could easily be requisitioned for educational purposes, in order to supply the public, by the time that any Act came into force, with medically qualified and fully experienced administrators of nitrous oxide.

Another argument is that the dental profession would suffer by the proposed change. I contend, however, that precisely the opposite would be the case. In the first place, it must be remembered that no proposal has been made to interfere with any vested interests: all registered dentists in practice at the passing of the Act would have the right to administer anæsthetics in the future. Secondly, the constant association of medical men with future dentists in anæsthetic cases would enable the latter to do greater justice to the essentially surgical part of their work, whilst they would certainly not lose in prestige by such an association. Thirdly, the decided blow which would be dealt to unregistered dental practice—for no unregistered dentist could either administer an anæsthetic or have one administered for him—would increase the practice of the registered practitioners. And here let me say a word with regard to the communication forwarded to you, Sir, by the staff of the Incorporated Dental Hospital of Ireland.[1] If their *suggested amendment to Clause I. of the General Anæsthetics* Bill were adopted all registered dentists not *medically* qualified would become entitled to administer anæsthetics not only in dental but in general surgical operations. Surely this is going rather far. That aspirations in this direction are, however, in the air is obvious from a letter in your issue of the same date, the writer of which, a dental practitioner without a medical qualification, administers nitrous oxide for operations by his surgical colleagues. This same correspondent, I regret to note, seems to favour the practice of dentists administering nitrous oxide and then operating, with only an "attendant" present. I have already pointed out that out of the 12 fatalities which have afforded such ample material for criticism in your columns no less than 11 took place under such circumstances. I would repeat that this is one of the strongest arguments in favour of the larger policy. If dentists are to be legally recognised as competent to administer nitrous oxide for dental operations this dangerous single-handed practice will undoubtedly persist. It is to be hoped, therefore, not only for this reason but for the others to which I have referred, that advantage will be taken of the present opportunity to place an essentially medical function in the hands of those who, by their medical training, are most fitted to exercise it. I take it that whatever decision may be arrived at on the point in question by the various medical and dental associations, academic institutions, and societies no legislation will take place without the full and *final sanction of the General Medical Council*, and I sincerely hope that that Council will, when the time arrives, give its unqualified support in the direction I have indicated.

As to the inclusion of local anæsthetics in any legislative measure there is doubtless great difficulty. I quite agree with Dr. Buxton that it would be of advantage to the public if some such restrictions could be enforced, but the insertion of the words he proposes at the particular point he describes in Clause I. of the General Anæsthetics Bill would, I fear, render the meaning of the clause somewhat obscure, and at the same time hardly provide against the particular risk in question—that of injecting cocaine and allied substances. At the same time it might be found possible, after careful consideration, to provide against these risks by some slight addition to the Bill. I am, Sir, yours faithfully,

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[1] THE LANCET, March 20th, 1909, p. 867

FREDERIC HEWITT.

Queen Anne-street, W., March 30th, 1909.

THE BROMIDE TREATMENT OF EPILEPSY.

To the Editor of THE LANCET.

SIR,—I have read with great interest the excellent address of Dr. James Taylor on Some Points in Treatment of Nervous Diseases published in THE LANCET of March 27th. It contains many practical suggestions on the treatment of some common diseases of the central nervous system which cannot fail to be of use to the general practitioner. I, however, do not quite agree with the author in the prominence which he gives to what is usually described as the bromide treatment of epilepsy, which is probably the commonest of all nervous diseases met with in practice. Dr. Taylor regards bromide as our "sheet anchor" in epilepsy, by which disease I presume he means idiopathic epilepsy. He quite properly points out that such treatment is not unattended with certain dangers—for example, "acne" and "cardiac depression." There is, however, a still greater danger—namely, the production of cerebral depression caused by the chemical action of the drug on the delicate cortical neurons. Such action has been aptly described by Professor Mott as resulting from *chemical restraint* of the nerve cells. It has been asserted that the prolonged administration of bromides is liable to incite changes in the cortical nerve cells indicating some degree of chromatolysis and even complete dissolution. Clinical observers in many of our largest asylums have noted that the continuous bromide treatment of their epileptics, whilst certainly tending to reduce the number of fits, produces in many cases that gravest of all mental diseases, dementia. It is, therefore, not surprising that in some of these institutions bromides are never used in the treatment of epileptics. Recent research points to the etiological factor in epilepsy being dietetic in nature, especially as regards the calcium metabolism of the body. Consequently it is advisable to place these patients on a farinaceous rather than a carbohydrate diet, and clinical observation proves that decided benefit results therefrom. Further, the daily administration of magnesium sulphate (ʒi. doses) is found to have a beneficial effect. It is known that intraspinal injection of a solution of this drug causes par[illegible] it may be [illegible] ing in so[illegible] Other points to be remembered in the treatment are suitable occupation, exercise, and warm baths, which latter are of use when the fits are very frequent. I would therefore arrange the points in treatment in order of their importance thus: (1) Dietetic; (2) occupation and exercise; (3) warm baths; (4) *magnesium sulphate; and* (5) *bromides.*

I am, Sir, yours faithfully,

W. J. MAGUIRE, B.A., M.D. R.U.I., M.R.C.P. Irel.

Belfast, March 29th, 1909.

THE EXTENSION OF THE USEFULNESS OF COTTAGE AND OTHER HOSPITALS: A SUGGESTION.

To the Editor of THE LANCET.

SIR,—It frequently occurs in the experiences of most general practitioners—especially those in outlying country districts—that poor patients are attacked with sudden illness which necessitates prompt surgical interference. Their removal to the nearest hospital over rough and dangerous roads, probably in an unsuitable vehicle, often adds to their sufferings and minimises their chances of recovery. Many a precious moment, and I may say many a valuable life, has been lost by this procedure. But what alternative has the general practitioner to suggest? The slender purse of his patient forbids the summoning of a consulting surgeon and a trained nurse, or if he is able to procure an anæsthetist he possibly feels himself incompetent to perform single handed some rare major operation. I may enlist your sympathies when I say that I reside some 14 miles from the nearest medical man, and when one or two of my experiences have been related the remedy which I suggest will be more readily understood.

During the last 12 months my partner and I have been called upon to perform 11 major operations, and fortunately all but three were able to pay the usual fee. But what about the three? It was as much as their lives were worth to attempt to remove them to a hospital; the rough approach to their moorland homes, the nature and acuteness of their illness, and the absence of an ambulance or suitable vehicle forbade it. One case—a case of ruptured ectopic gestation—occurred at a most outlandish farmhouse with an impossible approach. With operating bags we had to wade through huge snowdrifts over ground where it was quite impossible to take a horse, much less a trap. As the internal hæmorrhage in this case was severe every moment was of importance, and as the nearest hospital was some 28 miles away and the roads were impassable the only thing to do was to operate "at home," and this we did. The patient made a rapid recovery and was well and about in six weeks. On Feb. 13th I was called to see a poor man's wife and acute appendicitis was diagnosed, probably with perforation. The total earnings of her husband were 24*s.* weekly, and in every way she was a suitable case for hospital treatment. Her removal was out of the question, as the peritonitis was rapidly spreading and delay was dangerous; moreover, the distance from hospital was some 22 miles. Fortunately, I was able to obtain an anæsthetist who motored over and brought a trained nurse with him, and with the nurse as my assistant I performed appendectomy, removing a very offensive and gangrenous appendix. The patient is doing well up to the present, but her only chance lay in the operation being performed "on the spot" with as little delay as possible. But the expense is far too heavy for their little income—the taxicab, the anæsthetist, and a trained nurse for at least a fortnight.

To my mind, something ought be done by all public hospitals for those patients with limited means who are not as fortunate as their fellow-sufferers in towns who happen to reside within the "call" of the ambulance. Let me suggest that all public hospitals, especially those which draw their patients from large agricultural districts, should establish a fund to be called "The Out-patient Emergency Fund"; this fund to be expended in providing for an operation in cases of emergency unfit for removal and suitable for hospital treatment. Could not some hospitals arrange that their surgeons should be motored out to such cases as I have described, the expenses to be charged to the fund? The surgeon, if necessary, could take with him the hospital anæsthetist and a "theatre" nurse, or where the surgeon did not require an assistant the general practitioner would give the anæsthetic. The medical men in attendance on these cases ought to be privileged to "wire" to the nearest hospital for assistance, using a code word as may be agreed upon—for example, I should suggest some such message as this, viz.: "—— Hospital, York. OPEF. Appendectomy. Jones, Castlegate, Church Fenton. Dr. Roberts." The code word OPEF. would signify that it was a poor patient entitled to the benefits of the Out-patient Emergency Fund; the second word would give the probable nature of the operation, and the following would give name and address of patient and medical man. The hospital authorities might even go so far as to provide a fortnight or three weeks' surgical dressings, according to the nature of the operation

Of course, it would be necessary to safeguard against the abuse of such a scheme, and to do this effectually the surgeon should have the right to refuse to operate on his arrival if he thought the emergency not sufficiently great or his patient unsuitable for hospital treatment. Looking at it from the hospital's point of view, the expense would not be any greater than if the case was admitted to one of their beds. The cost of the motor hire would probably be equivalent to a patient's three weeks' board in hospital, taking an average. I find it possible to hire a taxicab for a distance of between 20 to 25 miles, to remain an hour or two before returning, at the cost of 2 guineas for the round trip. This would mean that, for example, a case of perforated gastric ulcer could be dealt with by an experienced [illegible] miles [illegible] cost of and two or three [illegible] patient about 3 guineas t[illegible] visiting would be called [illegible] fees of the general practitioner and occasionally (where the fees of the district nurse could not be obtained) the services of the district nurse could not be obtained) the provisos, for anyone but a legally qualified medical practitioner to administer *any* general anæsthetic. This we may call, for purposes of description, the larger policy. On the other hand, we have those who would make an exception in the case of registered dental practitioners and would allow them to administer nitrous oxide for dental operations. This we may speak of as the smaller policy. At the present juncture, which is one of far-reaching importance, these two policies are before us and it is our duty carefully to consider which of them should be adopted. We must put aside all personal and class considerations and have as our fixed objective the greatest good of the greatest number. The public expects, and the two interested professions should be prepared to provide, the best possible safeguards against those risks which are inseparable from the employment of all agents administered with the object of producing unconsciousness during surgical operations. I regard it as an idle quibble to argue that because nitrous oxide is the safest general anæsthetic it should become the subject of special legislation. It is an agent which, administered in its pure form, is irrespirable, on the average, for more than one minute. In certain cases—e.g., angina Ludovici, Hodgkin's disease, sub-lingual abscess, tracheal pressure from an enlarged thyroid or other causes—it may be more dangerous than any other anæsthetic. Many years ago, in the operating room of a well-known dentist, I had to perform laryngotomy under pure nitrous oxide in order to restore respiration which, owing to certain abnormal conditions in the upper air-tract of the particular patient, could not otherwise be re-established. Only last year, whilst administering nitrous oxide and oxygen for a dental operation to a patient whose tongue had been removed and whose power of swallowing had thereby become interfered with, respiration ceased owing to the entry of fluid secretions into the larynx, and it was only with the greatest difficulty that I was able, with the efficient assistance of my colleague, to restore respiration. Again, in various pathological conditions of the cardio-vascular system nitrous oxide may, under certain circumstances, be an unsuitable or even a dangerous anæsthetic. Apart, however, from any immediate circulatory risk attached to its use there is a certain amount of evidence that when administered so as to produce a greater or less degree of cyanosis this anæsthetic may impose an undesirable and possibly a permanent strain upon the heart. In his admirable work "Anæsthetics, their Uses and Administration," fourth edition, p. 115, Dr. Dudley W. Buxton says: "The heart seems seldom primarily affected, but if feeble and asthenic it is certainly liable to fail should the respiration be in any way hampered, so that syncope can thus be brought about and may prove fatal." I am not for one moment wishing to act as an alarmist in regard to nitrous oxide. I fully admit it is the safest known general anæsthetic and that when administered *in appropriate cases* and *by appropriate methods* it is practically free from risk to life. But as I am firmly convinced, after many years' experience of dental practice, that in order to secure the greatest safety under this agent it is necessary [illegible] is administrator should not only hav[illegible] observations on experience in its adminis[illegible]ontal and vertical, and find corresponding differences without any difference in the length of the arm as measured from the axilla. Dr. Hill need not therefore run away from his observations, but as proofs against my contention that the arterial wall when thickened affects the amount of pressure required to obliterate the artery they fall to the ground.

With regard to the second set of observations, I pointed out that Dr. Hill could only get the venous pressure as high as the arterial by his method of investigation, as he stopped any further engorgement on the distal side of the bag on the forearm when he reached the arterial obliteration pressure. This I still maintain to be a quite apparent fallacy in his method. With regard to his criticism of my method, firstly, the wristlet I used was not an "unenclosed bag," but enclosed in the same way as the armlet; secondly, I could repeat Dr. Hill's observations up to the point at which the artery was obliterated with the wristlet applied to the entire circumference of the arm; thirdly, I have found that when the wristlet was applied to a radial artery winding to the back of the wrist I could obliterate it with a pressure of 30 mm. Hg less than was required to obliterate the brachial by the armlet; and fourthly, when applied to a venous trunk the same must be true. *I maintain that my method* measures the venous engorgement pressure, while Dr. Hill's

Were it impracticable to supply the public throughout the country with well-trained medical men the case would be totally different. One argument which the supporters of the smaller policy are constantly advancing is that, speaking generally, the average dental practitioner is more competent to administer nitrous oxide than the average medical practitioner. I admit that at the present moment there may be some truth in this contention. It could easily be arranged, however, that before any Act came into force all medical students and all medical practitioners who would under the new *régime* be called upon to administer nitrous oxide for dentists should make themselves thoroughly competent administrators. As I have before stated, there is an immense amount of unutilised clinical material at our dental hospitals and in the dental departments of our general hospitals which could easily be requisitioned for educational purposes, in order to supply the public, by the time that any Act came into force, with medically qualified and fully experienced administrators of nitrous oxide.

Another argument is that the dental profession would suffer by the proposed change. I contend, however, that precisely the opposite would be the case. In the first place, it must be remembered that no proposal has been made to interfere with any vested interests: all registered dentists in practice at the passing of the Act would have the right to administer anæsthetics in the future. Secondly, the constant association of medical men with future dentists in anæsthetic cases would enable the latter to do greater justice to the essentially surgical part of their work, whilst they would certainly not lose in prestige by such an association. Thirdly, the decided blow which would be dealt to unregistered dental practice—for no unregistered dentist could either administer an anæsthetic or have one administered for him—would increase the practice of the registered practitioners. And here let me say a word with regard to the communication forwarded to you, Sir, by the staff of the Incorporated Dental Hospital of Ireland.[1] If their suggested amendment to Clause I. of the General Anæsthetics Bill were adopted all registered dentists not *medically* qualified would become entitled to administer anæsthetics not only in dental but in general surgical operations. Surely this is going rather far. That aspirations in this direction are, however, in the air is obvious from a letter in your issue of the same date, the writer of which, a dental practitioner without a medical qualification, administers nitrous oxide for operations by his surgical colleagues. This same correspondent, I regret to note, seems to favour the practice of dentists administering nitrous oxide and then operating, with only an "attendant" present. I have already pointed out that out of the 12 fatalities which have afforded such ample material for criticism in your columns no less than 11 took place under such circumstances. I would repeat that this is one of the strongest [illegible]logical cases were "measured simultaneously, with [illegible] armlet on the arm and the other on the leg connected with one manometer, and the observer feeling radial and posterior tibial at the same time." In the 21 high-pressure cases and ten cases of normal or low blood pressure without evidence of arterial disease, of which the results will shortly be published, the leg and arm readings were made successively.

I quite admit that to draw conclusions from one case in which arm and leg readings are made it is essential, as Dr. Hill says, that the readings should be made simultaneously. I believe, however, that in taking the average difference from a large number of cases as I have done any error due to the arm and leg readings not being simultaneous will be eliminated. That this is so is I think sufficiently shown by the fact that in my series of cases of normal or low blood pressure without evidence of arterial disease the average difference between the systolic arm and leg readings is less than two millimetres, and that both this series and that of cases of high blood pressure yielded on the average an identical diastolic arm and leg reading.

Since completing my paper, however, I have made simultaneous arm and leg readings on five high-pressure cases, and in four of these have found the leg readings to be distinctly higher than those on the arm; moreover, in two of the cases the difference was a very marked one. I have in these adopted both the above method recommended by Dr. Hill and another plan. *In this the armlet on the leg is* connected with one manometer, that on the arm with another.

One observer reads the arm manometer and feels the pulse in the arm, whilst the other at the same time reads the leg manometer and feels the pulse in the leg. By this means one *is* able to make, as by Dr. Hill's method, simultaneous readings on the arm and leg, and it is, I think, a more accurate procedure than his, for it is difficult for one observer to feel two arteries at the same time so as to be able to appreciate any but marked differences between the times at which the two pulses reappear after these have been obliterated. However, I have found that the two methods yield substantially the same results. One word more. Dr. Hill says that his colleagues the clinicians have not affirmed that they have felt such rigid contracted arteries as Dr. Russell describes. I would say in regard to this that, although originally strongly biassed against Dr. Russell's views, the more observations I make on cases of arterial disease the more I am convinced that his published clinical observations on these cases are correct. However, it is the rule in medicine that original observations like those of Dr. Russell are slow to be accepted.

In regard to the observations on blood pressure after forced exercise, I am extremely interested to hear that Dr. Hill has obtained pressure readings as high as 220 millimetres. Perhaps the fact that his highest readings are considerably higher than any which I obtained is accounted for by the fact that by means of his new sphygmometer he *is* able to take the reading more quickly than is possible by the ordinary armlet method.—I am, Sir, yours faithfully,

OLIVER K. WILLIAMSON.

Upper Berkeley-street, W., March 27th, 1909.

THE THERAPEUTICS OF RADIUM.

To the Editor of THE LANCET.

SIR,—While appreciating the importance of Dr. N. S. Finzi's communication on the above topic which appears in THE LANCET of March 20th, I would point out that no attempt is made to elucidate the reactive changes which bring about the dissociation of the combined proteid elements of the tissue cells, for which these emanations are well known to have a selective proclivity—viz., the neuron which is of the highest molecular complexity and the neoplastic cell of lowly organisation. No mention is made as to the method of estimating dosage by filtration or the nature of the media used. The first observations made with radium were necessarily made under conditions of filtration, which for efficiency of action have of late been eliminated. While on the other hand this method has been adopted with advantage for x ray effects, both deep and superficial. In a contribution to THE LANCET of Jan. 26th, 1907, I made an attempt to throw some light on the therapeutics of this subject controlled by a series of opsonic estimations against the bacillus of tuberculosis, since when my observations have received confirmation by Dr. Lawrence and Dr. Crane of the United States of America and by M. Paoli and M. Nuncioni of Italy.

The wealth of clinical results that have accumulated during the past few years by empirical treatment, urgently call for scientific elucidation, on the precise lines I have *endeavoured to suggest—namely, by opsonic estimations* whenever this is practicable. The index to the bacillus neoformans is invariably either low or excessively high during active cell proliferation in cancerous processes, and in a recent case of mine, during retrogression of the growth under the influence of the x rays, applied exclusively to the lymphatic glands, the index came up to within the normal range. By this statement I do not desire to imply that this organism is the sole causative factor, but that it plays a part in association with the causative factor, whatever this may be, is not improbable.

As far back as in 1881 the late Professor Huxley[1] announced the fact that "pathology is the analogue of the theory of perturbations in astronomy, and therapeutics resolves itself into the discovery of the means by which a system of forces competent to eliminate any given perturbation may be introduced into the economy. It will, in short, become possible to introduce into the economy a molecular mechanism which, like a very cunningly contrived torpedo, shall find its way to some particular group of living elements and cause an explosion among them, leaving the rest untouched." A remarkable prediction now being fulfilled.

I am, Sir, yours faithfully,
H. D. MCCULLOCH.

New Cavendish street, W., March 23rd, 1909.

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[1] *Address at the International Medical Congress held at York, 1881* See Huxley's Memoirs.

CONVENTION OF THE AMERICAN SOCIETY FOR THE STUDY OF ALCOHOL AND DRUG NARCOTICS,

HELD AT WASHINGTON, D.C., U.S.A., ON MARCH 17TH, 18TH, AND 19TH.

(FROM A SPECIAL CORRESPONDENT.)

The Alcohol Question in the United States.

ALTHOUGH the Society for the Study of Alcohol and Drug Narcotics was the first medical association in the world formed for the purpose of studying alcohol and the diseases following its use from a scientific point of view, and its organ, the *Journal of Inebriety*, has been in existence since 1876, yet the legislative control of persons addicted to alcohol in excess is still very inadequate in the United States.

It is for the purpose of enunciating the scientific bases upon which must be constructed the edifice of legislative and social control of the drink evil that this association met in Washington during the commencement of the Sixty-fourth Congress and the *régime* of the new President, Mr. Taft. The great wave of "Prohibition" which has passed over the South during the previous five years has prepared the public and the legislators for a serious consideration of the means of controlling what is felt to be a menace to the future of the nation. Indeed, to this theme the Presidential address of Dr. MARCY of Boston was limited. He stated that in the North ter [illegible] whereas in the South it was being [illegible]. Economic forces were at the root [illegible]. these had enlisted the active support of the moral forces which always opposed alcoholic excess. The movement needed leaders, not mere theorists, and for the practical teaching physicians were required. The Society for the Study of Alcohol endeavoured as an organisation to represent the spirit of service which would eventually be required for national life. The impelling motive in the South arose from its rapid industrial growth at the end of the reconstruction period after the termination of the civil war. For this growth the efficiency of the labouring population must be maintained. *Of the 36,000,000 population of the South* 20,000,000 were negroes; and of the remaining 16,000,000 80 per cent. were native born Southerners whose education had in the main been greatly interfered with as a consequence of the poverty following the war. The educated leaders had seen the need of imposing a restraint, and pending education Prohibition was suggested. The movement was very early supported by newspapers and in the counties cross-road drinking shops were abolished. In Georgia, before state prohibition was declared, 120 out of 145 counties had already excluded saloons. The vote for the measure was opposed in the House by only seven out of 134 members, and in the Senate by 39 out of 139. The measures prohibited the manufacture, sale, and keeping in shops of all intoxicants; even druggists and physicians might keep only pure alcohol, and might supply only one pint upon one prescription, which could not be repeated. But the law was nul [illegible] importation of wine, [illegible] (Your correspondent [illegible] imported last year alone into Georgia.) In Alabama, however, not only had there been county and State prohibition (the Bill for which passed with only three dissentients) but an Anti-shipping Bill was passed with but five dissentients. In Mississippi the law was similar, with the difference that although sacramental wine and home brewing were not unlawful *no one* might be in possession of more than two quarts of liquor. Oklahoma became a state during the Prohibition movement and had the most drastic of all the laws, for a medical man who was convicted of prescribing alcohol for other than medical purposes might be *sentenced* to imprisonment. Of the non-Prohibition states in the South very few counties remained without restrictions. Even in Kentucky, the centre of whisky manufacture, all the counties but four had restrictions. In Tennessee only a few towns were exempt. In West Virginia 33 out of 55 counties had Prohibition; in Virginia, 46 out of 100, as well as 20 partially; in North Carolina, 66 out of 97. In Atlanta, the chief city in Georgia, railway accidents had diminished 20 per cent. since Prohibition had been introduced. The arrests for drunken and disorderly conduct were only 66 last year, a colossal diminution, and the race riots had entirely ceased. None of the Prohibition measures had been party questions, both Democrats and Republicans participating. The real efficacy of Prohibition was proved by the great diminution of internal revenue stamps which had caused the discharge or transference to other work of a number of employees in the Government printing office in Washington. It should not be forgotten that prohibition to be real must conform to public sentiment and this could not be maintained by abstract teaching in school.

Dr. CROTHERS, the secretary of the association, perhaps the best known figure in the American movement against inebriety, in discussing the future of the alcohol problem, said that the Prohibition movement did not depend upon hysteria but was a universal consciousness of the evil of inebriety. The movement against alcohol was not a moral but a physiological one. Alcohol had a future as a fuel for the small engine. This was the direction that the liquor interests should follow so as to meet the demand when the saloons had been abolished.

Dr. BARIGHT (New York) stated that America was 15 years behind Germany, which had declared the uselessness of alcohol in medicine.

After a statement that it was the fusel oil which made it useful in snake poisoning, Dr. WILLIAMS (Washington) stated that recent research has shown the entire inefficacy of alcohol as an antidote to snake poison. He urged a conservative attitude towards the use of alcohol in therapeutics, believing that much careful experiment in the laboratory of the pharmacologist and at the bedside by therapeutists was still required.

Dr. PARKS (Georgia), editor of the *Altruist*, stated that [illegible]cent court decisions with regard to what is known as "near [illegible]er" had much diminished the benefits which Prohibition [illegible]st brought in Atlanta. This preparation contained a good deal of alcohol, and was being largely consumed since its sale had been pronounced legal.

Dr. KELLY (New York), in discussing the alcohol problem in everyday life, highly commended a series of magazine articles which Dr. Henry Smith Williams had communicated to *Maclure's Monthly*. Dr. Kelly thought that alcohol should be classed with cocaine as a dangerous drug. From his operative experience as a gynæcologist he knew the pernicious effects of 'moderate' drinking. Alcohol was the most common cause of the lack of moral training in childhood.

Dr. ROSENWASSER (Newark, N.J.), chairman of the New Jersey Commission on Crime and Dependency, disagreed with prohibition. Local option was worse still.

Mr. CRAFTS (Maine) stated that no human regulation could be universally enforced: the law did not prevent murder, thieving, or forgery, but it diminished them. Prohibition diminished drunkenness.

In discussing the rational treatment of inebriates, Dr. ROSENWASSER laid great stress on communal effort. He animadverted upon the fact that at present only those who were already drunkards could be admitted for treatment, and that no accommodation was made for voluntary applicants. Retreats should be supplied for early hopeful cases. The criminal acts of epileptics, too, were a sufficient cause for commitment in most States. Why should not the same principle apply to the victims of alcohol? The early segregation of modern treatment had improved the prognosis of insanity, and a similar procedure would even more improve the prognosis of inebriety.

Dr. KELLOG (Battle Creek) agreed that the chronic inebriate was a neurasthenic with disturbed metabolism. The remedy was not to regard inebriety as a vice but to treat it medically as a physical perversion.

Dr. KEISTER (Virginia), in discussing the effect of alcohol stated that in the Boer war the Boers who displayed much stamina took no alcohol, while Sir Frederick Treves had said that in the march of the British army to relieve Ladysmith during the great heat the men who dropped out were the drinkers of alcohol. In the United States there were 3,500,000 hard drinkers, of whom 125,000 died annually, 5000 by suicide. Alcohol cost the country incalculable sums of money; it was responsible for 85 per cent. of the crimes, 75 per cent. of the paupers, 50 per cent. of the insane, 40 per cent. of liver and kidney diseases, and 75 per cent. of fashionable ailments. 60 per cent. of the children who were in epileptic, imbecile, or reform institutions were the descendants of drunken parents or grandparents.

The difficulties in the way of preventing this national danger were indicated by Dr. WILEY, chief chemist of the U.S. Bureau of Agriculture, who related his experiences in helping to make and to enforce pure food laws which now compelled all medicines that contained alcohol to be labelled with the percentage they contained. Dr. Wiley's assistant spoke of the prevalence of the so-called "soft drink" habit in the Prohibition States of the South where cocaine and caffeine were sold under more than 100 fancy names and created innumerable victims among the factory and shop girls, soldiers, and clerks. Another source of the drug habit was the sale of drugs by post in secret packages as a cure for various habits, and diseases and as headache powders. To a circular sent to 856 physicians asking them to report cases of addiction to such drugs 814 replied and reported cases of poisoning, with 28 deaths and 136 cases of habitual use.

In reply, Dr. ROSENWASSER declared that the sale of these alleged cures was merely an excuse to make money by selling at a high price to habitués the drugs for which they craved but which they could not legally obtain otherwise. He declared that these firms were doing a good business in spite of the exposures which were made some time ago in the lay press. The government chemist stated that they could stop this illicit traffic if a united medical opinion declared itself against the pretensions of the dealers. A Bill was at present before Congress to prohibit the inter-State traffic in habit-forming drugs except wholesale to pharmacists. If this were disallowed and pedlars were prohibited the individual States would be able to control the problem within their own borders.

(To be continued.)

MOSQUITOES AND MALARIA: A CAMPAIGN THAT FAILED.

(FROM A SPECIAL CORRESPONDENT.)

A LEADING article dealing with the Story of Malaria in Mauritius, which appeared in THE LANCET of March 27th (pp. 926-28), recommended anti-malarial measures chiefly directed towards mosquito extermination at an annual cost of £9000. As these recommendations are based on the favourable results obtained consequent to observance of the same procedure at Ismailia, the Federated Malay States, Hong-Kong, and the Panama Canal zone, no doubt the record of an instance of failure in India will not be without interest to the medical advisers of those administering fever-stricken localities before they recommend large expenditure of public funds for what may produce doubtful results. Lahore Cantonments (Mian Mir) when selected as an area for British troops in the pre-Mutiny days was a healthy station, free from marshes and situated on a dry sandy soil 700 feet above sea level. During the process of inhabitation it was irrigated to improve its grass and vegetation, and 40 years after the Mutiny we find it densely grown over with vegetation and closely irrigated. The inhabitants, both civilian, military, and native, were intensely afflicted with malaria. In 1901, at the instance of the Sanitary Commissioner, the Government of India appointed two experts in the subject of malaria prevention—Major S. P. James and Captain S. R. Christophers, I.M.S.—to visit Mian Mir, and an active campaign was undertaken against the breeding-places of the anopheline mosquito. This campaign proceeding strenuously and continuously for years received a most intense and unexpected stimulus on the appointment of General Walter Kitchener, C.B., to command the Lahore Division in 1904, and neither money nor labour was spared. General Kitchener threw himself heart and soul into the work and the following measures were carried out.

(1) Large works of surface drainage were carried out by the Royal Engineers and irrigation was completely abolished throughout the cantonment, (2) with the abolition of irrigation every canal, ditch and channel which had been used for that purpose was filled up permanently, and every pool and depression within half a mile of any house in the cantonment was also filled up levelled, or drained, and (3) mosquito brigade measures were not discontinued when the experiments of Major James and Captain Christophers were over, but were extended with great thoroughness throughout the cantonment An interesting feature of the campaign was the employment of all the British and native troops of the garrison (about 2000 in number) on the work of filling in the canals and ditches That the experiment has been effected at great sacrifice to every inhabitant of the cantonment none who visits it can doubt for the abolition of irrigation resulted in the almost total extinction of gardens In experiments of this kind there is a danger that the restriction of cultivation and the compulsory abolition of nearly all vegetation will restrict the amenities of life to such an extent as to render the cantonment uninhabitable by man It will be remembered that the method upon which Major James and Captain Christophers relied for ascertaining whether there has been an increase or decrease in larvæ and adult insects depended upon the fact that (to an observer who is skilful in detecting these insects and who has regularly collected them in specified places) a decrease or increase in these places must be obvious This test still remains the best that has been employed in any anti mosquito operations, the only other which has been used being what is called "the general consensus of opinion," which means, of course, the opinion of the irresponsible and untrained crowd Major James has now given us his conclusions in a communication read before the Bombay Medical Congress he does not think the problem of whether there has occurred a diminution in the number of larvæ in the cantonment needs discussion, because it is certain that by the abolition of irrigation, the filling in of all pools and depressions, and the other works mentioned the number of breeding places has been enormously reduced

Mosquito birth rate —Major James did not see the condition of the cantonment during the rains of 1908 but at a visit in October, although he searched the most likely parts of the cantonment every day for four days he could find only three breeding places and only one of these —a burrow pit situated at a distance of more than half a mile from the nearest house in the cantonment—was of considerable extent He thinks there can be no doubt that, to quote an expression often used by Professor Ronald Ross, "the birth rate of anopheline mosquitoes in the area has been enormously reduced To the question whether there has been a marked reduction in the numbers of anopheline adults he cannot give such a satisfactory answer

Statistics —Whatever may be the opinion of those who are willing to believe that a simple statement of the admission rates from malaria during periods before and after anti mosquito operations have been conducted is sufficient proof of the success of the operations, Major James feels sure that everyone in India is too well acquainted with the fallacies inevitable in such statistics to be content with such a form of proof And if one can provide no other evidence than hospital statistics these should be subjected to a very careful and detailed analysis before being regarded as of any value In the Statistical Office of the Government of India there are great facilities for an analysis of this nature and as regards the statistics of Mian Mir, Major James (who is the Government official responsible for medical statistics in India) caused one to be made He is afraid even the most strenuous advocate of anti mosquito operations could not infer from it either that the diseases which some years ago would have been diagnosed as malaria have been markedly reduced, or that the general health of troops in the station has been greatly improved While Major James believes that these statistics are the most accurate that can be obtained, it is necessary to point out that no official statistics regarding malarial fever represent at all accurately the true prevalence of the disease among troops During October, 1908 more than half the British soldiers in Mian Mir were either admitted into hospital or were being treated as out patients for malarial fever alone, to say nothing of the admissions for "debility" the result of that disease, but even this statement represents very inadequately the havoc wrought by the epidemic There are many British and native soldiers who do not report that they are ill unless it is quite impossible for them to carry on their duties, and it is probable that among such men the proportion infected with malaria parasites is high, because 'a touch of fever' is regarded very lightly by them Owing to this practice of not reporting sick unless quite incapacitated it often happens that the true condition of a regiment is not apparent unless the regiment is suddenly called upon to perform a march

Examination of children —Major James dealt lastly with the prevalence of malaria as shown by the examination of native children in bazaars In his first report on the anti malarial operations in Mian Mir a number of results were given which had been obtained in October, 1901, for the purposes of this test by Dr J W W Stephens, Captain Christophers, and Major James in their preliminary survey of Mian Mir Cantonment The figures which are of importance at present are reproduced from the first report and are as follows —

Locality	Time of year	Percentage of children infected with malaria parasites (endemic index)	Per cent with enlarged spleens (splenic index)	Number examined
	1901			
British Infantry Bazaar	October	51	80	25
Royal Artillery Bazaar	,	35	75	26
Native Cavalry Lines		24	36	25
Syce Lines A	November	56	48	25
Syce Lines B		20	20	25

For the whole cantonment the actual numbers and percentage worked out as follows —

Date	Number of children examined	Number infected with malaria parasites	Number with enlarged spleens	Endemic index	Splenic index
October and November 1901	123	48	67	37 5	52 3

These figures are of permanent value because it must be obvious that if anyone eventually succeeds in extirpating, or materially reducing, malaria in Mian Mir such a result will be evident by a great reduction in the figures It may also be said that until a marked and permanent reduction in the figures occurs no one should be entitled to say (whatever hospital statistics may appear to show) that the malarious nature of the cantonment had been materially improved Anti mosquito operations have now been carried on continuously in Mian Mir for more than six years, during more than three of which irrigation has been entirely abolished, and one was entitled to expect that by this time if the operations had been successful the figures would have fallen almost if not quite to zero No serious objection has been, or can be, urged against the value of this test as a means of proving whether anti malarial operations have been successful or not and it was therefore natural that when Major James visited Mian Mir with the object of confirming, if possible the favourable accounts regarding the success of anti mosquito operations in that cantonment he should turn to it first

For the last three years it has been the practice to give quinine twice weekly not only to all troops and followers but also to their families and to the children in the bazaars During Major James's visit he found that a hospital assistant was on duty solely for the purpose of administering quinine to children in the British infantry and Sudder bazaars In the lines of native regiments the quinine was administered to the children by the hospital assistants attached to the different regiments Major James, being aware of the arrangements and having seen the children in the native cavalry lines receive their doses, was surprised to find so many children heavily infected with malaria parasites.

Disappointing results.—Major James has drawn up the following tables regarding parasite and spleen rates in Mian Mir since anti-malarial operations were begun in that cantonment:—

I.—*Mian Mir as a Whole.*

—	October, November, 1901.	October, 1908.
Parasite rate per cent. (endemic index)	37·5	81
Spleen rate per cent. (splenic index)	52	69
Number examined	For parasites, 128 For spleens, 128	For parasites, 147 For spleens, 147

II.—*Specified Localities in Mian Mir.*

—	—	Oct., 1901.	Oct., 1902.	Oct., 1903.	Oct., 1908.
British Infantry Bazaar	Endemic index	52	41	—	68
	Splenic index	80	69	77·5	64
Royal Artillery Bazaar ...	Endemic index	65	20	—	78
	Splenic index	75	64	64·5	—
Royal Artillery Hospital, Followers and Syce Lines	Endemic index	56	—	—	80
	Splenic index	48	—	60	85
Native Cavalry Lines ...	Endemic index	25	—	—	85
	Splenic index	36	—	—	55
Native Infantry Lines (Dogras)	Endemic index	—	—	—	95
	Splenic index	—	—	—	79
Native Infantry Lines (Pioneers)	Endemic index	—	—	—	83
	Splenic index	—	—	—	74

From whatever standpoint these figures are regarded the answer is as unequivocal as it is disappointing. It was hoped that it might at least have been possible to say that the anti-mosquito operations had mitigated, though they had not prevented, the epidemic, but if we consider for a moment that although many of the children whose blood was examined had undoubtedly been taking quinine at least once a week, parasites were present in the blood of from 68 to 95 per cent., we must conclude that the difference between a prevalence of this degree and one which is worse is inappreciable. In this opinion Major James feels sure that he will be supported by medical officers at Mian Mir who were able to observe the terrible havoc wrought by the disease among troops and followers in the cantonment.

The lessons to be learned from the Mian Mir experiments are extremely important from the point of view of the military authorities and from that of administrators in general. It is not intended to refer to them here. The authorities (who aimed, of course, at the prevention of malaria) have carried out a system which has not only proved ineffective for the purpose they had in view, but has resulted in reconverting the cantonment into the arid desert which it was 50 years ago. In view that the results of these operations may tend to arrest enthusiasm in the great cause of the prevention of malaria, it may be noted that anti-malarial measures and mosquito-destruction measures are not, and have never been, synonymous terms, except to those who regard the latter as the only method of value for reducing malaria; and that in Major James's opinion enthusiasm in the anti-malarial cause is not arrested by the somewhat rare instances when the *truth* regarding failure in mosquito-destruction operations has been proclaimed, but by the more frequent ones when success in such operations has been reported on evidence that will not bear criticism and is often ridiculous.

Captain Christophers, speaking on Major James's paper, said they knew from Panama that they could deal with malaria, but what they wanted to know was which particular method was the best. In Mian Mir he thought that they had set about it in the wrong way, and that instead of having a campaign against mosquitoes they should have pushed the use of quinine.

A CRISIS IN THE WATER-SUPPLY OF CAIRO.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

AN UNPOPULAR WATER-SUPPLY.—A CHORUS OF COMPLAINTS.—A SINISTER WARNING FROM BRESLAU.—EXTENSIVE CONSUMPTION OF UNFILTERED NILE WATER AND ITS RISKS.

Cairo.

OF the numerous sanitary problems that have to be studied at Cairo, the drainage scheme which has just been accepted and sanctioned seemed likely to hold the first place in the public mind. A few hours in Cairo sufficed, however, to show that in forming this opinion I was quite mistaken. Outside the official circle no one really knows anything about the scheme for laying sewers in Cairo. Most persons content themselves with the expression of vague apprehensions which are, however, easily quieted by the conviction that this is still a question for the future. The public is somewhat sceptical, however, as to that future being very immediate. The present is the tenth or twelfth project for draining Cairo, and in spite of assurances year after year to the contrary nothing whatsoever is done. Indeed, what was the use of talking about drainage schemes before sufficient water was provided to flush the drains. On the other hand, everyone, from the highest to the lowest, is intensely interested in this question of a water-supply. Most persons have an opinion, generally a very strong opinion, on the matter, and on all sides there is a great clamour demanding immediate action. So widespread is the interest taken that the water-supply is no longer merely a sanitary and scientific problem. It has acquired a political and sentimental aspect with which it is now necessary to reckon. Among the native population there is a superstition against drinking what they denominate "dead water." They will often prefer to drink extremely foul surface water to a pure water coming from underground where they say it is dead and buried. Thus from the very beginning there was a prejudice against the present supply, because it is pumped out of wells. So much is this the case that when the first complaints were made they were left unheeded, being attributed merely to this prejudice. In a little while, however, the Europeans who had no special reason for objecting to well water also began to complain and now it may be said that everyone is dissatisfied. Consequently, I had hardly reached Cairo when first one person, then another, and finally quite a chorus of people expressed their hope that I would investigate the question of the water-supply. Egyptians and Europeans are all eager in regard to this matter, and some did not fail to express themselves with considerable bitterness of feeling.

The present difficulty is due to the abandonment of the Nile as the direct source of supply for Cairo—indirectly almost all water in Egypt is Nile water. Obviously, the Nile waters are often contaminated, and it was also equally evident that the methods of filtering employed at Cairo were defective. It was therefore dangerous to drink the Nile water. The fact that an employee at the Nile filtering works at Alexandria died from cholera helped to create a scare. The present water-supply of Cairo is the outcome of panic rather than of a very complete and deliberate investigation. It happened that at Tanta, a town which is half-way between Cairo and Alexandria, and which has a population of 60,000, wells had been dug to a depth of 150 to 160 feet, which yielded a very good water-supply. This water was pure and free from bacteria; and the inhabitants, in spite of their preference for the Nile and surface waters, soon recognised the merits of the new supply and were quite content. The Government then thought something similar might be done for Cairo and made borings near the National Hotel, but the results were unfavourable. At Rod-el-Farag, some couple of miles down the Nile, and beyond Cairo they found what seemed to be very good water. For a whole year pumping operations were carried on here to see if the supply would diminish and it did not. The Government then proposed to the Cairo Water Company that it should transfer its works to Rod-el-Farag, dig a large number of wells, cease filtering the Nile water, and supply well water in its stead. This was done, and a few days ago I visited the installation.

There are in all 22 wells, but they are not all finished.

At present 19 wells are in working order. As the primary object was to avoid drinking the Nile water I was surprised to find that the wells are all along the bank of the Nile, and this, too, after the river has passed through Cairo. Four of the wells are close to the river and the others are at a distance of 330 yards from the water's edge. The wells follow the river in its northerly course and are separated one from the other by a distance of about 88 yards. The water company only owns a strip of land 12 metres wide running the length of the 22 wells. On either side of this strip the land is cultivated and manured. There are a village and an old Mohammedan cemetery close to the wells. Each well consists of a 13-inch wrought-iron bore-pipe, going down a distance of 30 metres. The various portions of this pipe are joined together by being screwed into an iron socket to render them thoroughly watertight. Below and for a distance of another 30 metres is the intake. This consists of a tube-shaped frame on which are affixed three layers of gun-metal wire gauze that act as a strainer or rough filter. Two tubes were inserted. Along the inner tube was put the wire strainer. Outside of it some fine sand was introduced. Then the tubes being removed the water enters after passing through the layer of sand and the gun metal wire gauze strainers. But, of course, the water does not flow in an absolutely horizontal line towards these 30 metres of intake tubing. The action of the pumping must draw down the water from a higher level. Therefore, it cannot be said that the water is taken 30 metres below the surface of the soil, the level at which it enters the tube. Further, it is natural to suppose that the more frequent and energetic the pumping the higher will be the level from which the water is drawn down. The soil above consists first of a deposit of Nile mud. It is the fertile earth mud of the Nile and descends a depth of about 4 metres. Then come some 2½ metres of light clay mixed with sand. Below this there is sand, some of it very fine sand, with occasional layers of gravel.

Thus we have at a depth of 30 to 60 metres 30 metres of intake pipe. Above there are 30 metres of water-tight pipes which are the pump-pipes, and these empty into a main syphon-pipe connected with all the wells. In this main the waters from the different wells mix; but above each well there is an inspection chamber where there is a valve, by which the connexion with any one of the wells can be cut off, so that the supply from that source ceases. The hardest pumping, I was assured, would not reduce the level of the water round the pipes more than 1½ metres. But if the level of the subsoil water is not reduced more than a few feet, may not some of the water obtained have travelled downwards from a greater distance, and have come from points further removed from the wells? Obviously, the well water is Nile water which has changed very considerably in consequence of the distance it has travelled through the soil. Its character now depends on the nature of the soil through which it passes; and it seems to me that the extent of this catchment ground will of necessity vary according to the amount of water pumped out. The first trial well which was constructed yielded 5000 cubic metres of water per day. When eight wells had been dug and brought into operation the yield per well was less, and this was attributed to their proximity to one another. It was therefore decided not to sink wells with less than 80 metres between them. Even under those conditions the amount of water that each well would yield was no longer estimated at 5000 cubic metres, but 4000 cubic metres per well were set down as the normal quantity that might be expected. It does seem to me that there was not sufficient forethought displayed as to the possible effects of increasing the volume of water extracted, seeing tl [illegible] was extended the quality of [illegible] the quantity. Because one v [illegible] day of good water,' it does not follow that 22 wells, sunk close to each other, are going to yield every day between them some 88,000 cubic metres of water of identically the same quality. Again, it would seem as if the fear of pathogenic bacteria was allowed to eclipse all other considerations. The water was hard; it was found to contain some manganese and some iron, which increased as the number of wells increased, but this was considered inoffensive.

In a short time it became evident that this well water was not only hard but that it was extracting iron out of the pipes through which it passed. At times, notably in the baths, the water was found full of heavy matter in suspension and quite dirty in colour. No one had ever complained of iron in the Nile water nor had any accidents happened to the delivery pipes when they were used to carry the Nile water. But now that the well water travels in these pipes all kinds of mishaps occur. The fact is that deposits take place in the pipes and these are washed away by any irregularity in the running, such as by a sudden increase of speed or by the sudden stopping and recommencing of the flow. Hence the trouble is often noticed in bathrooms where the water is not tur [illegible] water has opportur [illegible] the bath. At the [illegible] had not been used for four months was opened for my edification. The water that came out first looked a dark brown colour. In an ordinary hand-basin it left a heavy deposit of dark hard particles and a considerable quantity of sand. This I was able to scoop up with my fingers after the water had stood only a few minutes. The water had also an unpleasant odour. But after the tap had been left running for five minutes or so the water seemed quite clear and free from odour.

The general belief now prevalent is that a vegetable growth called the *crenothrix*, the existence of which in the water is favoured by the presence of manganese and iron, causes the greater part of the mischief. These growths help to block up the pipes and add to the quantity of organic matter in the water. In these circumstances the official analysis of the water as found at the wells is no longer sufficient. What is wanted is analysis of the water after it has travelled a long distance and remained for some time in the distributing pipes. These pipes, which are far from perfect in construction, add to the difficulty. In the absence of sewers, also, there is a quantity of "dead ends" or *cul de sacs* where the water stagnates in the pipes. In regard to this vegetable growth M. Villiers and M. Colin in their work on the "Altérations et Falsifications des Substances Alimentaires" (Paris, 1900) when dealing with water-supply speak of the *crenothrix Kühniana* in the following terms: "This white water weed, which may be found in ordinary water, is very common in water that contains organic matter in decomposition or in chalybeate waters. It has a strong affinity for iron salts, especially the oxide, and fixes this oxide in its filaments. Thus it forms felt-like masses, brown in colour, and large enough to obstruct water pipes completely. This has been noticed at Lille by M. Girard and at Bordeaux by M. Tieman and M. Gartner. In decomposing these brown masses impart to the water a russet tint and a disagreeable taste and odour. The water is then unfit for drinking purposes."

This description coincides with what is now occurring at Cairo when water is drawn from a pipe in which it has been allowed to stagnate for some time. Then the manganese and deposits in the boiler pipes spoil the boilers. To remedy these evils, at a cost of about £900, four big filters have been constructed. The idea is to pass the water through small pieces of the ore of peroxide of manganese on which the manganese is precipitated. Then the ore can be re-oxidised by exposure to the action of the sun. But to clean these filters it is only necessary to increase the pressure of the water which will wash the dark-coloured precipitate off the filtering media. Thus the filters would themselves create the nuisance which they are intended to prevent if, in consequence of a fire or from some other cause, the water were drawn from them more rapidly than usual. Then, the four big filters now under trial cannot filter more than 400 cubic metres per day, and therefore it would require an enormous plant and a very large outlay to apply this doubtful process.

A more serious consideration, perhaps, than the defective quality of the water is the fact that the supply may also fail in quantity. We have seen that the first well yielded 5000 cubic metres per day and that when several wells were dug it was necessary to reduce the estimate to only 4000 cubic metres per well. In the course of time it became evident that the wells were not even yielding the lower estimate of 4000 cubic metres. At last this falling off was so marked that in January, 1908, an experiment was made to discover the actual quantity obtained. To the surprise of all concerned it was found to have fallen from 4000 cubic metres per well to 3200 cubic metres. Worse than all, the decrease seemed to continue. In January, 1909, another experiment was made and the yield then amounted to only 2700 cubic metres per well. There had been a decrease of 500 cubic metres in the course of one single year.

I may refer here to the alarming experience of the town of Breslau where in very similar circumstances the water-supply suddenly collapsed. The capital of Silesia has 422,000 inhabitants, and in 1872 waterworks were installed to filter the waters of the river Oder. The results seemed excellent, and in the last ten years during which this water was drunk there were but six to 11 deaths from typhoid fever per annum per 100,000 inhabitants. But in 1892 the fear of cholera suggested that the filtered water should be replaced by underground water—in other words, natural instead of artificial filtration was demanded. Accordingly, 315 wells were dug at a distance of only 21 metres from each other. The pipes used were but six inches in diameter. By the commencement of the year 1905 the works were so advanced that nine-tenths of the supply would, it was thought, be available. But it was soon discovered that the amount of water pumped out of the wells decreased. Instead of 60,000 cubic metres they only obtained 40,000. Further, it became apparent that the water had changed in character and now contained an altogether unexpected quantity of iron. By the end of March, 1906, there was so much iron in the water that linen could not be washed. All sorts of excuses were forthcoming. Air was said to have penetrated into the water-pipes though they were ultimately proved to be perfectly watertight. Fortunately, the filters that had been used for the waters of the river Oder had not been destroyed and the town was in this emergency able to return to the old system of water-supply.

This is exactly what is wished for here in Cairo, only with better methods of filtration than those employed in the past. Except officials, whose tongues are tied and who dare not express an opinion, everybody I have encountered condemns the present water supply, and desires to return to the Nile—the Nile properly filtered be it understood, for in the absence of storage filtration would be the only safeguard. The ladies especially are very emphatic as to the existing troubles. The expenditure of soap is ruinous, and in spite of this the linen is yellow and sometimes absolutely stained. Vegetables cannot be properly cooked in this water, and so convinced are some people that the water causes the hair to become brittle and to break that they go to the trouble and expense of sending for a bucket of water from the Nile with which to wash their heads. As for the natives, they continue drinking the Nile water although it is now unfiltered. The Nile water is still distributed, but only for watering the gardens or the streets. So we have arrived at the unfortunate position that formerly the filtered Nile water was considered dangerous and the result of digging the wells to remedy matters has been that a large number of people now drink unfiltered Nile water. The intended reform has, in fact, entirely missed its mark. The danger from the Nile has been increased instead of decreased. Indeed, the death-rate of Cairo does not testify to any improvement. Among the foreigners especially, who are more likely to drink the well water than the natives, the death-rate seems to have increased rather than to have decreased since the wells came into general use in 1905. For instance, the death-rate per annum per 1000 among foreigners was 21·8 in 1901, 25·5 in 1902, 21·1 in 1903, and 25·6 in 1904. Now, in 1905, when the well water was first extensively distributed, the death-rate among foreigners was 26·1 per 1000, in 1906 it was 25·9, and in 1907 it was 27·4. Nor can I find any indication of improvement in the specific statistics relating to typhoid, typhus, and relapsing fever which are here grouped together. It would be difficult to prove that the supply of water from the Rod-el-Farag wells has caused an amelioration in the public health, whereas the entire population is clamouring against the inconveniences it occasions. If there is danger that the Nile may bring cholera to Cairo, then that danger exists to-day and in an aggravated form, because the Nile water is still drunk extensively and it is no longer filtered. Those people who drink the Nile water are sufficiently numerous to infect the whole town if they should contract cholera from the Nile.

Under all these considerations it seems to me that the continued reliance on the Rod-el-Farag well water is dangerous, and that the supply may suddenly prove insufficient. It also appears that a return to the Nile water would be expedient, if for no better reason than that it would give immense satisfaction to 99 if not to 100 per cent. of the population. Considering that the position of the British advisers to the Egyptian Government is fraught with many difficulties, and that occasions of acquiring popularity do not occur every day, it would be a pity to miss the present excellent opportunity of supporting a measure that would be so widely applauded. It is said that the Nile water is satisfactorily filtered at Alexandria We drink in London with extraordinary impunity water that receives the drainage from an area inhabited by one and a quarter millions of people. Why should not the Nile water be filtered at Cairo? It may cost money, but so does the waste of soaps, the spoilt linen, and the injured boilers, while the "mental and moral damages" caused by the irritation and resentment of a large section of the population are worth considering.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Pulmonary Tuberculosis in Manchester.

THERE are three institutions, or rather three branches of one institution, for the treatment more especially of cases of consumption from Manchester and the district around. First of all there is a commodious and well devised out-patients' department of the Manchester Hospital for Consumption and Diseases of the Throat and Chest in Hardman-street, Manchester; next comes the hospital at Bowdon for in-patients; and thirdly, the Crossley Sanatorium at Delamere. At the *thirty-fourth annual meeting of the* supporters of the Manchester Hospital for Consumption and Diseases of the Throat and Chest held on March 22nd in the Lord Mayor's parlour some *interesting particulars* were given. Mr. W. J. Crossley, M.P., who presided, said that the hospitals were always full and if they had not adopted the plan of receiving private patients he did not known how the committee could have met the expenses. From this class of patients they received last year £3905. The idea, he said, came from Germany. The hospital stands high, the winter has been hard, and those patients "who were badly hit with disease had a bad time in some respects, but those who were not badly hit seemed all the better for the hard weather." The report showed that the 90 beds were occupied all the year and the results are said to be satisfactory, the system adopted being the "open-air" treatment with a very liberal diet. The average stay of a patient is three months. The pity is that it cannot be longer, but owing to the demands for accommodation and the numbers waiting for admission the Board has been compelled to fix a limit of three months. The patients are out of doors all day, except at meal times, and usually sleep with the bedroom windows wide open. At Bowdon the 50 beds have been fully occupied during the year, but it is sad to know that a large number of applicants are always waiting for admission. All these patients belong to the working classes, and it is usually the wage-earner who is struck down, so that they are often short of the warm clothing so much needed. In the out-patients' department 11,443 were under treatment during the year, against 11,163 the previous year. The medical board call attention to the fact that so many patients apply too late for successful treatment, and say that it is better to send doubtful cases for consultation, and even to admit to the sanatorium when tuberculosis is only strongly suspected, rather than to wait, as is so often done, till the disease is too extensive to allow of recovery. At Hardman-street the want of in-patient accommodation for urgent throat cases and for acute chest diseases has been seriously felt, but the times are not at present favourable to any further extension. Altogether this institution tries to cope with a widespread and terrible scourge so far as its resources permit and is as free from what is well known as hospital abuse as it well can be.

March 28th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Annual Meetings of Liverpool Charities.

AT the forty-fifth annual meeting of the Liverpool Hospital for Consumption and Diseases of the Chest, held on March 18th at the Town-hall, the Lord Mayor, who presided, warmly commended the excellent work which was being accomplished through the medium of the hospital and its laboratory in Mount Pleasant and the sanatorium at Delamere Forest. Special emphasis was laid upon the educational value of the work in the direction of teaching tuberculous patients the best method of improving their standard of health and the means to be adopted for preventing the spread of the disease. At the annual meeting of the Liverpool Queen Victoria District Nursing Association, also held in the Town-hall, Mr. Archibald Williamson, M.P., announced that Her Royal Highness Princess Louise had consented to attend the district nursing congress to be held in Liverpool from May 12th to 14th next. At the annual meeting of the Liverpool Country Hospital for Children it was announced that an offer had been received of £4000 towards the erection of a new open-air ward, provided that a similar sum was raised by the end of June. Towards this am[illegible] tribute [illegible] had tak[illegible]

Death from Anthrax.

A death from anthrax in a labourer employed by a Liverpool firm occurred early in March. On returning from work on Feb. 24th he drew his wife's attention to what appeared to be a boil on the left side of the neck which was painful. By the following morning the swelling had developed and, rapidly becoming worse, he was removed to hospital where he died on the day following admission. At the inquest which was held on March 3rd the medical evidence was to the effect that death was due to anthrax. A representative of the firm in which the deceased was employed stated that at the works a quantity of greasy bones were regularly crushed up for the purpose of making artificial manure and fertilisers. They also used "shoddy," the refuse from old clothes. There was, however, no warrant for the suggestion that any of the goods had been contaminated with anthrax. The deceased's duties would bring him into contact both with the bones and the shoddy. The witness never thought it necessary to take precautions to cope with a possible outbreak of anthrax. Disinfectants were, however, kept on the premises to provide against cases of blood poisoning which occasionally occurred. Mr. Beard (assistant factory inspector), who watched the proceedings on behalf of the Home Office, said he did not think that anybody realised the danger of anthrax in works of this kind. The coroner thereupon remarked that it was time that precautions were taken. The managing director of the firm stated that the stuff which came from India was bone-meal which arrived already bagged and received but little handling in this country. The firm did not use much of it; they mostly used greasy bones, the greater quantity of which came from Lancashire. He handled the stuff himself daily. A verdict of death from anthrax was recorded by the jury.

Presentation to Dr. Thomas Bushby.

Dr. T. Bushby, who recently retired from the post of medical officer to the B division of police after 12 years' service, was the recipient of a pleasing souvenir of the great esteem in which he was held by the men of that division, to whom his resignation has been a matter of much regret. The presentation took the form of an antique Dutch writing bureau suitably inscribed. Superintendent Phillips spoke of the great care and courtesy Dr. Bushby had always exercised in dealing with the men. The presentation was made by the head constable who spoke in flattering terms of Dr. Bushby's high medical qualities. Dr. Bushby, in acknowledging the presentation, paid a very high compliment to the *personnel* of the men and testified to the pleasing relationship which had always existed between them.

Medical Inspection of School Children at Birkenhead.

A very encouraging first report has been issued by Dr. R. S. Marsden, supervising schools medical officer of Birkenhead, and Dr. R. O. Morris, medical officer to the educational authority of Birkenhead. The chief defects in the children inspected were: obstructed breathing, 15 per cent.; strabismus, nearly 4 per cent.; and dirty condition, 3 per cent. There had been no objection to the inspection on the part of parents, 82 per cent. of whom took a great interest in the proceedings.

March 29th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

The General Infirmary.

THE annual meeting of the subscribers and friends of the General Infirmary at Leeds was held on March 18th under the chairmanship of Mr. Charles Lupton, the treasurer and chairman of the weekly board of management. Dealing with the work done during 1908 it was pointed out that the number of in-patients treated was 51 in excess of that for 1907. This number was 7137, and included 335 who were in the beds of the institution on Dec. 31st, 1907. The average number of in-patients was 365, a figure which, being within three of the figure for the preceding year, points to the fact that the institution is working at high pressure. The average number of days spent by each patient in the infirmary was 18·7. The number of deaths was 531, which gives a percentage of 7·4, or, deducting the number of cases which proved fatal within 48 hours of admission—namely, 163—a percentage mortality of 5·2. The new out-patients numbered 42,371, exclusive of 601 patients in the maternity department. The two semi-convalescent hospitals in connexion with the infirmary have been very fully utilised. Patients who required more attention than they could obtain at convalescent hospitals of the ordinary type have been sent to the number of 1154 to these two institutions, which form virtually an extension of the infirmary, where the nursing is of the same standard as at the main institution. A resident medical officer is in charge of these homes under the direction of a member of t[illegible] c[illegible] c[illegible] during the last quarter of a century a very striking illustration of that steady diminution in the use of alcohol which has been frequently referred to. During the year 1908 the total amount of stimulants used in the wards and in the theatres and casualty departments was 2021 ounces of wine and 4405 ounces of brandy, a total of 6426 ounces—that is to say, about 18 ounces among 365 patients per day. Among some of the facts mentioned by the chairman was the gratifying one that since the commencement of the out-patient maternity department in 1885 no less than 13,342 confinements had been conducted with an aggregate mortality of 34. In the out-patient room, where, as already said, over forty thousand patients presented themselves, the inquiry officer had investigated the circumstances of 13,640 applicants. Of these, 115 at once admitted their ability to pay and were not attended to; 982 cases were further inquired into and 8 per cent. of these were found unsuitable on financial grounds for treatment. Mr. Lupton made some interesting remarks on the question of pensions for nurses and servants. He reminded the meeting that as a result of the memorial to the former treasurer, Mr. R. Benson Jowitt, a sum of £2240 was set aside at the suggestion of Mr. Jowitt himself for the purpose of establishing a pension fund for nurses and old servants of the institution. Unfortunately there had been no addition to that fund; probably, owing to the fact that it was labelled "The Jowitt Pension Fund," and many people might think the fund was closed. On the suggestion of Mr. Jowitt, therefore, it had been decided to strike his name out of the title of the fund which is to be called the "Pension Fund." For many years, but especially during the last few years, the work of the electric department, including in this the use of the x rays and Finsen lamp, has been increasing. The matter has been fully gone into by the weekly board and the faculty, and at the annual meeting it was resolved, on the recommendation of the weekly board, that an electro-therapeutic department be established under the charge of an honorary officer who shall be styled the director of the electro-therapeutic department. The rules for the department, especially in so far as they deal with the position of the honorary officer, are so important that they are appended and run as follows:—

> The director of the electro-therapeutic department shall have charge of the electro-therapeutic department, which shall include: (*a*) The use of x rays, radium, Finsen light and high-frequency currents, for purposes of diagnosis and treatment; (*b*) the supervision of the photographic department; and (*c*) the supervision of all electrical apparatus used in the diagnosis and treatment of disease.
>
> No patient shall be treated in the department who has not been referred to it by a member of the honorary staff other than the director, but the electro-therapeutic treatment of all patients so referred shall be carried out by the director.

March 30th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

Penalty for Selling Tuberculous Milk in Sunderland.

A DAIRYMAN was recently summoned by the Sunderland corporation for having sold milk from tuberculous cows within the borough contrary to an order made by the corporation. The magistrates held that the case was fully proved, but as the defendant appeared to be under a misapprehension and as this was the first case under the Act a fine of 20*s.* only was imposed. It was pointed out by the bench that subsequent cases might not be dealt with so leniently. The Act under which the above order was made is the Sunderland Corporation Act, 1907, Part VI. of which deals with the supply of tuberculous milk. The Act imposes penalties upon dairymen for selling milk from cows affected with tuberculous disease of the udder and requires that cows so affected shall be isolated and that all cases of tuberculous disease of the udder shall be notified. The medical officer of health is empowered to take samples of milk and to inspect cows the milk of which is to be sold in the borough, and if he has reason to suspect any cow to be suffering from tuberculosis of the udder he is authorised to take samples for examination. And further, if he is of opinion that the consumption of any milk sold in the borough is likely to cause human tuberculosis he is to make a report to the corporation, which can then serve notice on the dairyman calling upon him to show cause why an order should not be made prohibiting him from selling milk in the borough until such time as the medical officer of health is satisfied that the milk-supply is no longer likely to cause tuberculosis to persons residing in the borough. These provisions are applicable to all dairymen who sell milk in the borough, whether they reside within or beyond the borough boundaries. It is also to be noticed that the Act provides no compensation in cases where a farmer has to get rid of cows which are tuberculous and against whom an order has been made.

The Barrasford Sanatorium.

The annual meeting of the supporters of the Newcastle and Northumberland Sanatorium, Barrasford, was held recently in the library of the Royal Victoria Infirmary, Lord Armstrong, the president of the institution, being in the chair. The annual report was read by the secretary, Dr. O. W. Ogden. With regard to finances, the position at the end of 1908 was much better than at the end of 1907. The sanatorium was opened in May, 1907, and the deficit at the end of December was £2154. During 1908 this amount was reduced by £1298 to £856 as the result of an effort to raise £2000. In response to the appeal nearly £1000 were collected and Mr. J. H. Burn, who had already contributed largely to the expenses, gave an additional £500. Against this there was a further capital expenditure of £300 to complete the furnishing of the institution. An effort is to be made to pay off the deficit of £856 during the current year. The annual subscriptions had increased from £217 to £281. The institution accommodates 50 patients, and of these the Newcastle corporation has secured the use of 20 beds for one year at a cost of £100 per bed. Messrs. Armstrong, Whitworth, and Co. had supported the institution by maintaining five beds. The charge to other patients is £2 2*s.* per week. The honorary visiting physicians in their report stated that since the opening of the sanatorium in May, 1907, until Dec. 31st, 1908—a period of 20 months—90 patients had been discharged and every effort had been made to keep in touch with these persons after they left the sanatorium. They were in a position to say that of 52 male cases 22 are at work, two are ready to start work, six are *in statu quo*, six are not doing well, eight have not been heard from, and eight have died. Of 38 female cases 12 continued to improve, 13 are *in statu quo*, five are not doing well, five have not been heard from, and three have died. This is hardly an encouraging report, especially as it is a record of only 20 months' work. The test of the good which is done is the condition of the patient four years after he has left the sanatorium. Judging by the number "not doing well" and the number dead, it would seem as though admissions are not strictly limited to early cases of tuberculosis which present a reasonable chance of material benefit by a sojourn at Barrasford. If the object of the sanatorium were to be stated to be educational and to be a temporary health resort for those who are unfortunately afflicted with this distressing disease rather than the cure of the disease, it is more likely that the object would be achieved. A sanatorium for tuberculosis is in every way good, provided that its limitations be recognised. But if the charitable public be led to suppose that the persons sent to Barrasford are to be cured, and they read a report such as the above, they are very likely to think that the object for which their money was given is not being attained, with the result that their contributions will not be so readily forthcoming.

The Visit of Sir T. Lauder Brunton.

On March 18th Sir Lauder Brunton delivered an address on the Treatment of Heart Disease to the members of the Northumberland and Durham Medical Society. The library of the infirmary was well filled with medical men from the city and the neighbourhood. The address, which was very clear and most interesting, was devoted to the consideration of the treatment of those forms of heart disease which are not specially dealt with in the text-books but which are so common in practice and often so difficult to treat with success. Sir Lauder Brunton, as always, was most suggestive, and his address was full of advice and information which cannot fail to be both stimulating and helpful in the every-day practice of medicine. It is difficult, if not impossible, to summarise Sir Lauder Brunton's remarks, but if one were to state in one word the lesson of the address it would be—attention to detail, and this attention to detail in Sir Lauder Brunton's own work was well illustrated by the technique which he described when he has to take the blood pressure of a nervous patient. In the evening the members of the society entertained Sir Lauder Brunton to dinner. Over 100 members and their guests attended the dinner. In reply to the toast of his health, Sir Lauder Brunton referred to the establishment of the Research Defence Society, the objects of which are "to make known the facts as to the experiments on animals in this country, the immense importance to the welfare of mankind of such experiments, and the great saving of human life and health directly attributable to them." Sir Lauder Brunton pointed out the need of such a society to meet the unreasoned and unreasonable statements of good, nervous, and selfish people who sought to hinder the advance of medical science in this country. If experiments upon animals were disallowed by law all research in medicine would become impossible.

March 30th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Black-listed Patients.

A COMPLAINT of an unusual character was made at the last meeting of the Cardiff board of guardians by one of the district Poor-law medical officers. He stated that recently he had had an abnormal number of parish patients on his list owing to the refusal of some of the medical practitioners of the district to attend persons who made a practice of running up a bill for medical attendance with several medical men in succession and not paying any one of them. This class of person is unfortunately not confined to the Cardiff union, but it is not often that their sharp practice is met in such a determined manner as in Cardiff. Many of the persons concerned are said to be in fairly good circumstances, so that the proper steps for the guardians to take would appear to be to recover the cost of any medical attendance they may have received in consequence of having obtained an order from the relieving officer

The Winsley Sanatorium.

The sanatorium which was established four years ago at Winsley near Bath for the treatment of consumptive patients coming from the counties of Somerset, Wilts, and Gloucester, and the city of Bristol is continuing to do excellent work. Altogether 795 patients have been treated in the institution, and last year 215 were discharged, of which number 41 per cent. were considered fit to return to work, 38 per cent. were improved and many of these returned to their work, while 18 per cent. made no marked improvement. Six patients died in the sanatorium. It is satisfactory to find that there are now fewer applications than formerly for the admission of advanced and therefore unsuitable cases. It appears to be more generally recognised that the sanatorium is really only intended for those persons who have a reasonable prospect of recovery. In the recently issued report of [illegible] expressed that each succeeding [illegible] proportion of early cases as it [illegible] that consumptives, if sent to a sanatorium sufficiently early, can make complete recovery and be restored to full working capacity. Those patients who are discharged are encouraged to impress upon their friends and relatives the importance of early treatment and the danger of neglecting early symptoms of the disease. The medical board has very wisely made the rule with respect to the length of stay of patients more elastic than formerly. It originally provided for a residence of four months, but it has now been decided that at the end of two months the condition of a patient shall be considered and if he is not making satisfactory progress he is to be discharged. Although most of the beds are allocated to the districts named above there are a few available for patients from elsewhere, and quite recently arrangements have been made with the corporation of Coventry for the accommodation of six patients from that town.

Damages against an Unqualified Dentist.

At the Bridgend county court on March 11th Judge Bryn Roberts and a jury awarded the wife of a collier damages to the amount of £40 against an unqualified dentist at Cardiff. According to the evidence which was placed before the jury the assistant of the dentist, who was also unqualified, after injecting a solution of cocaine extracted from the woman six teeth. After the operation she fainted and a medical practitioner who subsequently attended her stated that for some days she was suffering from shock as the result of the injection of an unusual amount of cocaine. In giving judgment for the amount named Judge Roberts pointed out that he was not concerned with the fact that the dentist was not qualified, but it was reasonable to assume that the same care and skill would not be brought to bear by unqualified persons as by those who were qualified.

Cardiff Model Lodging-house.

There are in the borough of Cardiff many excellent municipal institutions, including isolation hospitals, public markets, and public slaughter-houses, but any proposals to establish a municipal lodging-house have met with no support. In a town of the character of Cardiff, with a large shifting population, connected on the one hand with the shipping and on the other with the colliery industries in the Merthyr and Rhondda coalfields, accommodation suitable for wayfarers is very necessary. The need is fairly well met, but as all the existing lodging-houses are in the hands of private individuals constant and vigilant inspection is necessary. There has recently been opened a lodging-house with accommodation for 287 men. The design of the building and the mode of carrying it on are very much on the lines of the houses which were first erected by Lord Rowton and later by the London County Council and municipalities elsewhere. Each lodger has a cubicle to himself and he has the use of the kitchens with cooking utensils and of the bathing and washing rooms. Food can be bought on the premises, but alcoholic drinks are prohibited. The charge per night varies from 6*d.* to 8*d.* The undertaking has been carried out by a limited liability company, the shareholders of which are all connected with Cardiff. One indirect effect of the establishing of this house will no doubt be the endeavour to bring up to its level of comfort other common lodging-houses in the town.

Cardiff Public Health Expenditure.

As the estimated expenditure during the next financial year necessitated an increased rate of 6*d.* in the £, it was only to be expected that the members of the city council should endeavour to cut down certain departmental estimates. An attempt, fortunately unsuccessful, was made to reduce the estimate of the health committee, which includes the charges for scavenging. One suggested reduction was particularly inopportune—namely, that of £200 for spraying the streets with tar. At a meeting of the public works committee held a few weeks ago the city engineer reported most favourably upon this method of keeping down dust both on account of its effectiveness and from the point of view of reducing the cost of maintenance. The estimated cost of the city asylum is £6000, a very considerable reduction upon the amount actually spent (£14,000) two years ago when the Cardiff lunatics were boarded out in various institutions all over the country.

March 30th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Notification of Phthisis.

THE following is a list of local authorities that have extended the Infectious Diseases (Notification) Act, 1889, to pulmonary phthisis with the approval of the Local Government Board up to March 1st, 1909: Clackmannan county, Kirkcaldy, Cupar, St. Andrews, Kinross county, Lower, Middle and Upper Wards of Lanarkshire, Bathgate, Linlithg[illegible]. Crail, D[illegible] North [illegible]try.

Marine Biological Association of the West of Scotland.

The annual report of this association for the year 1908 has just been issued and from its perusal it is evident that the facilities for study and research have been maintained in excellent order. During the year the tables in the research laboratory at Millport were used by 20 workers. The committee has recently issued an invitation to universities and scientific societies to send workers to Millport. The opportunity afforded to universities and scientific institutions to purchase specimens and material is being more fully taken [illegible] value of this [illegible]owledged by [illegible]ctory. The endowment fund remains at the same figure as at the end of the previous year, but the income for the year was not nearly sufficient to meet the expenditure. Not only was the whole income spent but a balance of cash in hand at the close of the year 1907 amounting to £188 was exhausted. To secure the continued prosperity of an association requiring to keep up such a large establishment as the station at Millport it is practically a necessity that a substantial endowment fund should be formed.

The Incorporated Glasgow Dental Hospital.

At the close of the session of the Incorporated Glasgow Dental Hospital Sir James Fleming, chairman of the board of governors, presided at the distribution of prizes and certificates on March 16th. In his opening remarks he said that the Glasgow Dental Hospital had been in existence for a considerable time and it had accomplished a great deal of very good work. Last year there had been over 13,000 patients treated, 80 per cent. of whom had had conservative operations, and only 20 per cent. extractions. The one thing which concerned the directors was the want of money. Their subscriptions had only reached £100, and but for the real work done by gentlemen prominent in the profession they could not have accomplished what they had, and the consequence was that the real work was left to their dental colleagues, who had given time freely both in connexion with the hospital and the school. Their desire was to bring [illegible]

of the future lay in the hands of the present-day [illegible]
urged them to maintain its high traditions and reputation.
Sir Hector Cameron then spoke. He traced the influence of
the Dental Act of 1878 in establishing and purifying the
dental profession. He held that there was in the Act
abundant means for maintaining the honour and high

traditions now entertained by all dentists. That Act had also had a very great effect upon the character of dentistry as a profession. It had produced a very great change in public opinion and in the opinion of leading and important bodies. Sir Hector Cameron then spoke of the evils arising from neglect of the teeth, adding that the workers in the Dental Hospital had realised that their work was added to by the increasing care of the War Office. No recruit would be admitted to the army if he were crippled in respect to his teeth. Soldiers in Glasgow were constantly sent to the Dental Hospital and that fact in no little manner had increased the work involved upon the Dental Hospital. Professor W. Glaister also spoke, after which the chairman called upon Mrs. McInnes Shaw to present the prizes and certificates.

University of St. Andrews: Resignation of Professor Purdie.

A meeting of the St. Andrews University Court was held at St. Andrews on March 19th, when a petition was submitted from Professor Thomas Purdie, LL.D., asking leave to retire at the end of the summer session from the chair of chemistry in the United College, owing to ill-health. The court unanimously agreed to record in the minutes the sense of the loss which the University will suffer by the withdrawal of Professor Purdie from active teaching in the chemistry department of St. Andrews. It was also agreed that steps should be taken to arrange for the election of a successor to Professor Purdie.

Montrose Asylum Charter.

At the instigation of the Secretary for Scotland, and following upon the recent agitation, the General Board of Lunacy has written to the Montrose Asylum and Infirmary Board suggesting to it that it should consider the advisability of applying for a new charter and asking for the views of the board either at a conference or in writing.

University of Aberdeen: The Chair of Surgery.

The winter session at the University of Aberdeen closed on March 24th. The graduation ceremony will take place on April 6th. The preliminary examination commenced on March 26th, 40 candidates presenting themselves in medicine. For the professorship in surgery, which will become vacant by the resignation of Professor Alexander Ogston, the following gentlemen, it is understood, are candidates: Mr. J. Scott Riddell, M.V.O., M.A., M.B. Aberd., senior surgeon to the Aberdeen Royal Infirmary; Mr. J. Marnoch, M.A., M.B. Aberd., surgeon to the Aberdeen Royal Infirmary; Mr. H. M. W. Gray, M.B. Aberd., F.R.C.S. Edin., surgeon to the Aberdeen Royal Infirmary; and Mr. Alexandar Don, M.A., M.B. Aberd., F.R.C.S. Edin., surgeon to the Dundee Royal Infirmary.

Aberdeen Trades Council and the Infirmary Contracts.

At a meeting of the Aberdeen Trades Council held on March 24th a letter was read from the clerk of the infirmary board in reply to the council's request that all infirmary contracts should be given to firms conforming to trades union conditions. The letter stated that as the infirmary was a philanthropic institution, supported by all classes of the community and utilised by the sick poor without any distinction, the directors could not see their way to grant the request. The following motion was then, on the proposition of the chairman, submitted to the meeting and after discussion carried by a majority:—

> That the Trades Council, representing the organised workers of Aberdeen, records its emphatic protest against the attitude adopted by the directors of the Aberdeen Royal Infirmary in refusing to stipulate that successful contractors must pay the trade union rate of wages and conform to all other conditions agreed upon by employers' and workmen's associations, thus admitting the possibility of firms executing work for the institution under conditions which can only tend to render these workers liable to the disease which the infirmary's primary object should be to combat, besides being a breach of a principle which has been accepted with advantage by most public and semi-public bodies in the country.

Death of Dr. Patrick Blaikie Smith.

Dr. Patrick Blaikie Smith died at San Remo on March 24th. He was born in Aberdeen in 1849 and graduated with highest honours at the University of Aberdeen in 1870. After graduation he was appointed assistant resident physician to the Middlesex Hospital, London. In 1872 he began private practice in Aberdeen and was appointed assistant to the late Professor Brazier, teacher of chemistry at the University in 1873. He was appointed physician to the dispensary, and from 1875 to 1886 was anæsthetist at the Royal Infirmary, when he became an assistant phy in that institution. In the following year he was app one of the physicians and lecturers on clinical me From 1889 to 1892 Dr. Blaikie Smith was examiner in logy at the University of Aberdeen, and from time t physician to various institutions in the city, and found t contribute many valuable papers to the medical journa 1884 he brought out his ether inhaler which obviated of the difficulties of administering ether. He had large private practice. He was also an enthu Volunteer, eventually holding the commission of Su Lieutenant-Colonel in the 1st V.B. Gordon Highlande 1895 Dr. Blaikie Smith's health was so bad that he g practice in Aberdeen and thereafter spent the winters Remo, where he built up an extensive practice. summers he spent at Nairn, visiting Aberdeen freq He is survived by Mrs. Blaikie Smith and two daught only son having died at San Remo last year.

March 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Drinking in Ireland.

THE Chief Secretary's Office for Ireland has ju pared an important report giving information as frequenting of public-houses by women and children six county boroughs of Ireland—Dublin, Belfast, Limerick, Londonderry, and Waterford. The obser made by the police were taken from 10 A.M. to 11 except on Saturdays and Sundays, when different h closing obtain, and on these days observation was k while the houses remained open. The results of wh police saw in the way of women and children frequ public-houses are shown in the subjoined table:—

Name of city.		No. of houses observed.		No. of women and child entering.		
				Women.		Child
Dublin	... ...	22	......	46,574	......	27,9
Belfast	... ...	22	......	5,963	......	6,4
Cork ...	... ...	10	......	1,995	......	2,2
Limerick ...	...	6	......	6,493	... ..	4,5
Londonderry	...	8	......	856	......	9
Waterford	...	6	......	5,441	......	2,7

In Belfast the greatest number of cases occurred lowest-class districts. It would appear to be a fairl mon practice for children between seven and 14 ye enter public-houses alone for intoxicating liquor and c home to their parents. The city, the report says, a with spirit groceries, which form a training ground formation of habits which lead to misery and poverty. of the principal causes of the difference between the I and Dublin figures is, according to the Dublin report, t the latter city only one house of the number obser returned as doing grocery business, while in Belfast 22 houses observed 17 do grocery business combine drink and are consequently more frequented by wome Belfast, according to the Belfast report, there are prac no public-houses where groceries are sold. The hous purely for the sale of drink. There is not so much drinking amongst women in Belfast as in Dublin. The about 500 "spirit grocers" and beer retailers in Belfas women order drink in the "spirit groceries," paying fo groceries, and in this way most of the drink taken by v is obtained.

Bacon Curing.

The peculiarly intimate association of pigs, pot poverty, and peasantry of Ireland goes to make the in of "bacon curing" an appealing one on this side c Irish Sea. The bulk of the bacon curing is carried on province of Munster, where some nine large "factorie a capacity for handling about 12,000 to 15,000 amongst them every week" have firmly estab themselves. In such circumstances a specially tive hearing was secured for a lecture delivere March 22nd at Enniscorthy to the North Wexford Fa Society on Bacon Curing and the Dead Meat Trad Mr. Loudon M. Douglas, of the College of Agricu Edinburgh. The lecturer said that while Denmark i twice the size of the province of Munster it has 54 bacon factories which handle as many as 40,000 pigs every week, the whole of the bacon of which was being continuously shipped to the United Kingdom. Much money which is now spent in railway freight and allied expenses would be saved if bacon factories were more numerous in Ireland. The pigs which are produced and grown in so large numbers in County Wexford are, for the most part, sent to Waterford or Limerick, which means that what would be a considerable profit is lost in the process of transfer. The older factories, too, are much more expensive to work than the modern ones, while wanting in the scientific design and construction of the latter. One of the most recently constructed has been aptly described as the "first farmers' bacon factory" in the United Kingdom; it is situated at Roscrea, County Tipperary. The lecturer dwelt on the necessity for a manager of a bacon factory to be conversant not only with the general practice of bacon curing but with its theoretical principles—with the bacteriology of meat, the chemistry of food and of antiseptics and of curing agents, the detection of disease, and many other branches of his important subject—and pointed out that: "It is a curious thing that although the industry represents such a vast amount of money to the country there are no facilities offered either at the agricultural colleges or universities for obtaining technical instruction in these matters. The proper utilisation of the by-products alone might mean increasing the wealth of the country by millions, but there are no facilities offered in Ireland for obtaining the knowledge that would enable any bacon factory managers to carry out the special processes which are so successful in connexion with this business in America and in other countries."

Tuberculosis Exhibition at Bray.

One of the most completely successful of the tuberculosis exhibitions hitherto held in Ireland was that of Tuesday, Wednesday, and Thursday of last week (March 23rd–25th), which was arranged in the Assembly Rooms, Bray, County Wicklow. The work of planning and arranging the hall had been intrusted to the charge of Mrs. Daniel Byrne and the ladies of the Bray Women's National Health Association, and it was admitted by all visitors that the duty had been carried out in the very best way, showing the most careful and effective attention to the requisite classification and order. Lady Aberdeen (accompanied by Lord and Lady Haddo and Mrs. Victor Marshall) motored down from Dublin and arrived at 12.30 o'clock. A magnificent bouquet was presented to Her Excellency and an address was read from the local tuberculosis committee. The latter was acknowledged in a graceful speech, and in another short address Lady Aberdeen declared the exhibition open. Large numbers of visitors attended and examined with attention the models of labourers' cottages, pathological specimens, models of bacilli, statistical charts, geographical maps, &c., which had been amply provided and very judiciously arranged.

Belfast Ophthalmic Hospital.

At the annual meeting of the friends of this charity, held on March 29th, it was reported that there were 106 intern cases and 1450 extern eye, and 759 ear, nose, and throat cases, making a total of 2315 patients. Financially there is a balance against the hospital of £177. Owing to the fact that the committee has been receiving trifling sums from some of the patients, the Commissioner of Valuation has seen fit to place the hospital on the rates of the city on the ground that the hospital makes a private profit by so doing and is not exclusively a charity. A demand has been made for £33 5*s.* for city rates and arrears and for £2 15*s.* for poor rate. These charges have been appealed against, so that the matter is still *sub judice.* It is curious that until last year neither rate nor tax was ever demanded, though no change has been made in the management of the hospital.

March 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Foreign Bodies in the Bronchi Extracted by Superior Bronchoscopy.

AT a meeting of the Hospitals Medical Society held on March 12th M. Guisez gave an account of three cases of foreign bodies in the bronchi. In one case the foreign body—the metal cover of a pencil—was situated in a lower ramification of the bronchus and was particularly difficult to extract. M. Guisez, basing his opinions upon 16 cases which had been under his care, enlarged upon the advantages which the method of superior bronchoscopy possessed over the inferior method. In fact, the latter should only be looked upon as a *pis aller.* M. Guisez added that the diagnosis in these cases was still extremely difficult despite the perfection to which clinical methods had been brought and the aid given by radioscopy.

The Treatment of Exophthalmic Goitre.

At a recent meeting of the Paris Society of Medicine M. Paule Sainton discussed the various treatments of exophthalmic goitre. Exophthalmic goitre is a collection of symptoms (*syndrome*) which react in a different manner to the same agent. In the case of infectious diseases, for instance, some aggravate and some improve, at least temporarily, the symptoms of the disease. It is the same with certain operations, such, for instance, as ovariotomy. In the presence of *this paradoxic reaction of the gland to identical causes* it is difficult to lay down absolute rules as to when one or the other method of treatment should be employed. Out of 19 cases treated by antithyroid hæmo- or sero-therapy M. Sainton noted an improvement in 14, a cure in three, and no result in two. In three cases which were apparently due to infection or to rheumatism sodium salicylate cured one and considerably relieved the other two. In his opinion the most useful tonic was the sulphate of quinine. The results of surgical treatment are very variable. He had seen one cure which had lasted for nine years. His own practice was to reserve surgical measures for very acute cases or for those in which profound cachexia was present.

An Operating Theatre Rated as a Provision Shop.

The following story shows a little expected consequence of an Act of Parliament. The Act of June 28th, 1901, which authorised the city of Lyons to levy sundry taxes in order to make up for the loss which it had sustained owing to the *octroi* having been done away with, contained a certain clause No. 14. This clause laid it down that hotels, inns, *maisons de santé*, or other houses should be assessed at the same rate as shops for the sale of food or drink, because of the dining and other rooms which the visitors enjoyed in common. They also paid inhabited house duty on account of the private rooms allotted to the inmates. The new Surgical Institute of Lyons, which only receives patients needing surgical care, has put in the plea that it should not be taxed at the same rate as an ordinary consulting room, and this is a point of great importance, for inns are rated at 6 per cent. and medical men at 12 per cent. The Conseil d'État has accepted this protest, but the operating theatre has been assessed in a very original manner. In so far as it comes under the head of a room used in common it had been assessed at the same rate as a provision shop, although the patients' private rooms and the private rooms of the medical man in charge paid inhabited house duty, the rule being that a room is assessed differently according to the purpose for which it is used. The Surgical Institute argues that the operating theatre should be considered as a private room for every patient who is operated on, and certainly at first sight it would appear to be a legal pleasantry to assess an operating theatre as a provision shop. But according to clause 14 every place (*local*) must be assessed either as a provision shop or as an inhabited house. The operating theatre cannot be an inhabited house because of the ever-changing succession of patients. Therefore it comes under the other heading.

Epidemic Cerebro-spinal Meningitis.

Epidemic cerebro-spinal meningitis was once a rare disease in France, where it was hardly seen except in military centres, especially those in the East. But for the last few years it has been making steady advances, and cases of it now occur from time to time in civil practice and in places wide apart from each other. On March 9th M. Netter read before the Academy of Medicine a note on a small epidemic which broke out in a suburb of Paris. The disease proved very infectious and in many instances it ended fatally. But very fortunately recourse was made to an antimeningococcic serum of remarkable potency which M. Dopter has been preparing in France and which is the same as Wassermann

Medical News.

UNIVERSITY OF LEEDS.—The following pass-lists have been issued in the Faculty of Medicine:—

FIRST EXAMINATION FOR THE DEGREES OF M.B. AND CH.B, PART. I, *Chemistry and Physics* —C. M. Gozney, H. R. Knowles, M. Peto, H. P. Shackleton, H. A. Sinson, H. W. Symons, H. L. Taylor, C. Ward, and J. Wright.

SECOND EXAMINATION FOR THE DEGREES OF M.B. AND CH.B., PART I. *Anatomy and Physiology.*—A. L. Bastoble, H. Caplan, L. Dunbar, C. J. H. Little, G. E. Macvie, N. V. Milton, F. W. Nunnery, William Robinson, J. B Sinson, J. P. Walker, T. L Walker, F. Wigglesworth, and B. W. F. Wood.

PART II.

Materia Medica and Pharmacy.—H. N. Ingham and C B Richardson. *Diploma in Dental Surgery: Preliminary Examination in Science.*—H. P. Shoesmith.

UNIVERSITY OF GLASGOW.—The following have satisfied the examiners in the fourth (final) professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.):—

John Allan, James George Anderson, William Hunter Stirling Armstrong, Douglas Morris Borland, Morris William Browdy, John Adam Gib Burton, John Cameron, Matthew Ignatius Thornton Cassidy, Weir Burns Cunningham, James Cowie Dick, Alexander Gordon Gilchrist, George Stevenson-Gordon, Edward O'Driscoll Graham, James Harper, M.A.; William Howat, M.A.; John Parlane Kinloch, David Neilson Knox, Alexander Macphail Macdonald, Murdo Duncan Mackenzie, George Macleod, M.A.; Allan M'Pherson, Thomas Marlin, Henry Nimmo Rankin, Alfred Roemmele, William Wilson Rorke, William Rutherford, James Johnston Sinclair, Arthur Turnbull, M.A., B.Sc.; James Brown Whitfield, John Alexander Wilson.

The following passed with distinction in the subjects indicated:—

In (*a*) Surgery and Clinical Surgery, (*b*) Practice of Medicine and Clinical Medicine, (*c*) Midwifery. George Macleod, M.A. In (*a*) Surgery and Clinical Surgery, (*b*) Midwifery: William Howat, M A; William Rutherford, and Alexander Stewart. In Surgery and Clinical Surgery: Winifred Margaret Ross, James Johnston Sinclair, and Arthur Turnbull, M.A., B.Sc. In Midwifery: Matthew Ignatius Thornton Cassidy, John Parlane Kinloch, Robert Charles Robertson, and William Wilson Rorke.

TRINITY COLLEGE, DUBLIN.—At examinations held recently the following candidates were successful:—

FINAL MEDICAL EXAMINATION.—PART II.

Midwifery.—Thomas A. Hughes, Douglas M. Moffatt, Cecil P. Smyly, Henry R. Kenny, William P. H. Smiley, Desmond Drew, Joseph P. R. Poch, Brindley H. Moore, Wellesley R. Allen, Charles G. S. Baronsfeather, Peter H. Lemass, Denis J. Stokes, Wallace D. Mitchell, Hugh S. Metcalfe, and Joseph E. N. Ryan.

INTERMEDIATE MEDICAL EXAMINATION.—PART I.

Arthur Chance, Frank Crosbie, Oswald C. S. Tandy, Gerald G. P. Beckett, Hubert G. Holdbrook, William A. Taylor, Samuel A. Lane, Ronald G. M'Entire, Leonard Shiel, and James C. Kelly.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* The number of diplomas granted here in the year 1907–08 was 827; in the four previous years the numbers were 1057, 729, 845, and 553.—*Beyrout* (*French Faculty of Medicine and Pharmacy*)*:* The chair of Clinical Surgery and Pathology, which was vacated last summer by the resignation of M. Hache, has not yet been filled up. This faculty enjoys the power of granting the French State diploma of Doctor of Medicine, which confers the right to practise throughout the Ottoman Empire and also in all the territories of the French Republic. The course and examinations are similar to those of the universities in France, though some of the professors and examiners are appointed by the Turkish Government. All Orientals are admitted as students, also Europeans whose families are permanently settled in the East. Last year the total number of students was 172, of whom 30 received the doctorate.—*Cincinnati* (*Miami Medical College*)*:* Dr. Walter E. Murphy has been appointed Assistant Professor of Laryngology and Otology.—*Nantes*: Dr. Col has been appointed to the chair of Materia Medica in succession to M. Ménier.—*New Orleans* (*Tulane University*)*:* Dr. Oliver L. Pothier has been appointed Assistant Professor of Pathological Anatomy.—*Odessa:* Dr. V. Philamoff has been recognised as *privat-docent* of Ophthalmology.—*Rome:* Dr. Tommaso Mancioli has been recognised as *privat-docent* of Otology and Laryngology.—*St. Petersburg* (*Military Medical Academy*)*:* Dr. K. J. Povarnin has been recognised as *privat-docent* of Neurology and Psychiatry.—*Tubingen:* The title of Extraordinary Professor has been conferred upon Dr. Blauel, *privat-docent* of Surgery; Dr. Brunn, *privat-docent* of Surgery; and Dr. Linser, *privat-docent* of Dermatology.—*Vienna:* The title of Extraordinary Professor has been conferred upon Dr. Karl Sternberg, *privat-docent* of Pathological Anatomy; Dr. Heinrich Peham, *privat-docent* of Midwifery and Gynæcology; and Dr. Leopold Réthi, *privat-docent* of Laryngology.

MIDWIVES ACT COMMITTEE.—The ninth meeting of the Departmental Committee appointed by the Lord President of the Council to consider the working of the Midwives Act was held at the Privy Council Office on Wednesday, Mr. Almeric FitzRoy, the Clerk of the Council, presiding. The following witnesses attended and gave evidence: Sir Shirley F. Murphy, medical officer of health of the County of London, on behalf of the London County Council; Mrs Swinton, matron of the Buckingham Palace-road workhouse of the St. George's (Hanover-square) Union, on behalf of the National Association of Workhouse Masters and Matrons; and Mr. Edward Sergeant, county medical officer of health, Lancashire, on behalf of the Incorporated Society of Medical Officers of Health and on behalf of the Midwives Act committee of the Lancashire county council.

EAST-END MOTHERS' LYING-IN HOME.—The annual meeting of this institution was held on March 24th at the Home, Commercial-road, E., when Mr. Alfred Owen Lankester presided. The medical report stated that during the year 1908 498 women were delivered, 491 children being born alive and 12 stillborn. Five died and there were five sets of twins. Of the out-patients 708 were delivered, 702 children being born alive and 16 stillborn. Three died and there were ten sets of twins. Mr. M. Cursham Corner, honorary visiting medical officer and lecturer, in concluding his report says: "1908 has been not inaptly called the Children's Year. Its influence may bring about better parental conditions, as well as improved surroundings, both before and after birth. The commonest causes of infantile mortality are poverty, ignorance, and neglect, and the predominating one in the East-end is poverty." He also called attention to the remarkable fact that no maternal death occurred in connexion with the work of the institution during the year. Financial help is greatly needed for this deserving institution.

THE LONDON FIRE BRIGADE.—The report of the Fire Brigade Committee of the London County Council submitting the report of the chief officer of the Fire Brigade, Captain J. de C. Hamilton, for the year 1908 has recently been published. The number of deaths by fire was the same as in 1907—viz., 93; of these victims 66 were injured and removed before the brigade was called, and of the remaining 27, 10 were taken from the buildings by firemen, but succumbed afterwards. It is the custom of the report to include all deaths from fire in the county of London, whether the brigade was called to deal with the outbreak which occasioned them or not. The 93 lives were lost in 84 separate fires and 53 of the fatalities concerned children under 12 years of age. These were in 31 cases due to the victims playing with fire or matches; mineral oil was responsible for 7; 10 were caused by clothing coming into contact with oil or gas stoves; and 10 by sparks from fires. The practice of leaving young children in rooms where unguarded fires are burning is rightly reprehended and the report points out that under the Children Act, 1908, which comes into force on April 1st, this form of carelessness will be made a penal offence if it result in serious injury to the child. Attention is also drawn to the fact that considerable danger is incurred in following the advice given in certain newspapers regarding the use of petroleum as a cleansing agent. Amongst the statistics given we note that the brigade attended 3238 fires, excluding 791 chimney fires, during 1908, and of this number 61 were reported as "serious." The chief officer of the brigade regrets that many new buildings are being erected in which unprotected constructional ironwork is used, and also that the valuable properties of fire-resisting glass have not received wider appreciation. In referring to notable fires of the year the report notes that 2500 feet of hose had to be coupled up to reach the seat of fire near the Moorgate-street Station on the occasion of the outbreak on the City and South London Railway. We are glad to learn that improvement has been made in the metropolitan water-supply available for brigade purposes, and that a radical improvement is being effected in the *fire-alarm system, involving improved telephone facilities* for calling the brigade. The chief officer lays it down that a knowledge of the position of the nearest fire-alarm or fire station is the duty of every citizen. Perhaps the most interesting part of the report is that dealing with the employment of motor traction for brigade purposes, which is being gradually extended with such good results that future stations erected will be entirely motor stations. There are at present three with complete motor equipment, which includes *altogether six steam motor fire-engines, five* petrol motor tenders (including one first-aid motor), six petrol motor-escape vans, and four service motor-cars. Horsed appliances have, of course, done splendid work in the past, but the advantages of motor traction are so apparent that we *are glad to see the* brigade does not intend to adopt a conservative policy in the matter.

OPHTHALMOLOGY AT OXFORD.—The sixth annual post-graduate course on ophthalmology in connexion with the Faculty of Medicine of the University of Oxford has been arranged from July 5th to 17th. The main idea of the course is to demonstrate (in actual patients as far as possible) the whole range of *ophthalmology, in order to make the reading of a text-book* more profitable than can be the case when relying merely on pictures. The first part of the course will be mainly devoted to demonstrating the practical examination of eye patients, the use of the ophthalmoscope, and the work of refraction. During the second part the work will be more specialised and lectures will be delivered by various ophthalmic surgeons. As well as the mere routine cases, there will be a large selection of patients of unusual interest for the benefit of those who are more experienced in eye work. Altogether some 500 cases will be present for demonstration. The course will be illustrated by the lantern. The fee for the course is £5 5*s.* Medical men attending the course will be provided with board and residence at Keble College at the rate of 7*s.* 6*d.* a day during the second week, but during the first week lodgings must be secured. Further particulars can be obtained from Mr. Robert W. Doyne, Margaret Ogilvie's reader in ophthalmology in the University of Oxford, 30, Cavendish-square, London, W.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following is the list of prizes awarded for the winter session, 1908–09:—Descriptive anatomy: Junior: W. I. Adams, first prize (£2) and medal; G. E. Pepper, second *prize (£1) and certificate. Senior: M. J. Hillery, first* prize (£2) and medal; I. M. Swanepoel, second prize (£1) and certificate. Practical anatomy: First year: G. E. Pepper, first prize (£2) and medal; H. A. S. Deane, second prize (£1) and certificate. Second year: A. G. Mosbery, first prize (£2) and medal; I. M. Swanepoel, second prize (£1) and certificate. Practice of medicine: W. V. Johnston, first prize (£2) and medal; J. S. Pegum, second prize (£1) and certificate. Surgery: J. S. Pegum, first prize (£2) and medal. Midwifery: F. W. Warren, *first prize (£2) and* medal; J. S. Pegum, second prize (£1) and certificate. Physiology: S. Griffin, first prize (£2) and medal; M. J. Hillery, second prize (£1) and certificate. Chemistry: J. C. Sproule, first prize (£2) and medal; B. Goldberg, [illegible] ncan, [illegible] (£1) [illegible]) and [illegible] The lectures and *practical courses of* the summer session commenced on Thursday, April 1st.

THE PUBLIC MEDICAL SERVICE AT HAMPSTEAD.—On March 30th, at the Hampstead Conservatoire, a meeting of the local profession was held, under the auspices of the Hampstead Division of the British Medical Association, to consider proposals for the establishment of a public medical service in Hampstead, in order to provide for uniformity in contract practice and for the treatment of poor school children under the new Medical Inspection Act. In proposing the first motion,

> That it is desirable that a Public Medical Service be formed in Hampstead and neighbourhood for the organisation and provision of medical attendance for persons unable to pay the ordinary medical *charges in the usual manner,*

Mr. C. W. Cunnington laid stress on the many ways in which lay bodies threaten to curtail general practice, and advocated medical organisation to meet those dangers. Dr. J. Ford Anderson, in seconding, enlarged on the abuses of contract *practice.* The motion was carried unanimously. Dr. H. J. Macevoy *proposed the second motion*—

> That this meeting appoint an organising committee to draw up rules for the proposed service, to recommend names for its officers and committee, and to secure the adhesion of the medical practitioners in Hampstead and the neighbourhood to the service,

and expressed a hope that the service would federate all the various [illegible] Mr. W. [illegible] unanim[illegible] appointed to serve on the organising committee: Dr. Ford Anderson, Mr. S. L. Archer, Dr. L. Barnett, Mr. Cunnington, Dr. Percy C. Evans, Dr. W. Winslow Hall, Dr. Macevoy, Dr. Picard, Dr. G. D. Pidcock, and Mr. A. R. Roche.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Ambulance Service in the Metropolis

THE Departmental Committee on the ambulance service in the metropolis has presented a report condemning the existing arrangements as insufficient and defective. (The report is dealt with at length in another column.)

Medical Acts Amendment Bill.

Mr. COOPER has presented a Bill in the House of Commons designed "to regulate the administration of anæsthetics, to make regulation relative thereto, and to amend the Medical Acts." He has given it the name of the Medical Acts Amendment Bill. It has been read a first time. In introducing the Bill Mr. COOPER has the support of Sir WALTER FOSTER, Sir WILLIAM COLLINS, Sir JOHN BENN, Mr. ACLAND ALLEN, Mr. BARNES, Dr. RUTHERFORD, Mr. BERTRAM STRAUS, and Mr. CARR-GOMM. The text of the Bill is not yet issued. However, its principal terms have transpired. The first clause of the Bill requires that after Jan. 1st, 1911, no person shall be registered by the General Medical Council unless he submits satisfactory evidence that he has been instructed in the administration of anæsthetics. After that date it is proposed that no person except a registered medical practitioner may give any vapour, gas, or drug, solid *or liquid,* with the object of producing unconsciousness during any operation, examination, or childbirth. The penalty is £10 for a first *offence and £20 for a second.* A proviso is introduced to deal with cases of urgency or cases under the supervision of a registered medical practitioner. A power is given to the General Medical Council *to make orders and regulations. Further, the subject of giving* certificates of death in the case of persons dying under an anæsthetic is dealt with. The Bill also takes cognisance of dentists, and it is proposed to allow persons already registered under the Dental Act at the time when the Bill takes effect still to enjoy the right to give an anæsthetic for a dental *operation.*

The Royal Commission on Tuberculosis.

It is expected that the work of the Royal Commission on Tuberculosis will come to a close within the financial year 1909–10. It was appointed *in August, 1901, and has issued three interim reports.* The estimates set apart £3939 for the expenses of the Commission this year. Of this sum £3050 are to be devoted to scientific investigations. During the financial year 1908–09 the vote for the Commission amounted to £5491, of which £4582 went *to the expense of scientific investigations.*

The Oaths Bill.

The Oaths Bill, which is designed to substitute as far as possible the taking of the oath with uplifted hand for the practice of "kissing the Book," is making rapid progress. It has emerged from a Standing Committee of the House of *Commons in a stronger form.* If no further change is introduced into it the judge or magistrate will administer the oath with uplifted hand in all cases except when the witness asks to be sworn in some other fashion.

Registration of Nurses (Scotland) Bill.

Mr. CLEL[illegible] establish an [illegible] Scotland." [illegible] now before the House of Commons

HOUSE OF COMMONS.

WEDNESDAY, MARCH 24TH.

Legislation on Tuberculosis.

Mr. HUDSON asked the [illegible] whether it was his inte[illegible] bovine tuberculosis is at present receiving my attention in connexion with the Milk Bill which I propose to introduce. As regards human tuberculosis, I do not at the moment contemplate legislation on the subject. I have recently issued an Order providing for the compulsory notification of pulmonary tuberculosis when occurring amongst persons in Poor-law institutions or under the care of Poor-law medical officers; and this Order has, I am glad to find, stimulated voluntary notification of the disease when occurring among other persons in the large number of districts where a system for that purpose is in force. I shall by no means lose sight of the matter, but I think that developments with regard to it must be gradual.

THURSDAY, MARCH 25TH.

Small-pox at Bristol.

Mr. CAVE asked the President of the Local Government Board whether an outbreak of small-pox had occurred in Bristol; whether, in spite of the advice of the Board's inspector, the board of guardians refused to make special arrangements for the vaccination of unvaccinated children and for revaccination; whether, on the Local Government Board themselves instructing the vaccination officer to provide special facilities, the health committee refused to permit the issue by their medical officer of bills notifying the names of the vaccinators and the places where they would attend for vaccinations; how many cases of small-pox had already occurred in the city and how many had proved fatal; and what steps the Local Government Board proposed to take in the matter.—Mr. BURNS replied: The answer to the first two points in the question is in the affirmative. I have caused one of the medical officers of the Local Government Board to pay two visits to Bristol and the neighbourhood owing to the outbreak, and he has conferred with the authorities and officers concerned as to the precautions which should be adopted, and various measures have been taken accordingly.

The Milk-supply in France and Germany.

Mr. LEWIS HASLAM asked the President of the Board of Trade whether his attention had been called to the fact, as stated in the *Board of Trade Labour Gazette* for March, that the retail price for milk in urban centres was, when the investigation was made in October, 1905, 25 per cent. cheaper in Germany and 30 per cent. cheaper in France than in England; would he state whether the relative cheapness in those countries was due to municipal or Government action; and would he state, or take means to endeavour to ascertain, why milk was practically the only exception to the rule that the principal articles consumed by the working classes in this country were much cheaper than in France or Germany.—Mr. CHURCHILL furnished the following written answer: The relative cheapness of milk in France and Germany appears to be due, not to municipal or Government action, but to greater scale of production and smaller cost of distribution. The scale of production is larger both in France and Germany, the number of cows kept being 18 per 100 of the population in Germany and 19 in France, as against 10 per 100 in the United Kingdom. The distance which milk has to be brought to the house is, as a rule, not so great as in this country, and the milk is commonly distributed to the consumer by means of barrows drawn by dogs and led by women and not, as in this country, by means of carts drawn by horses and driven by men.

The Sanitary Condition of Seamen's Sleeping Quarters.

Mr. LEWIS HASLAM asked the President of the Board of Trade whether his attention had been called to the report of Dr. J. Howard-Jones, medical officer of health of Newport (Mon.), in which he called attention to the offensive and insanitary condition of the seamen's sleeping quarters and other accommodation in many ships, some of which were new; and whether he would cause a thorough investigation to be made by the officers of the Board of Trade, with the view of inforcing the adoption of proper sanitary conditions on such ships.—Mr. CHURCHILL wrote in reply: On the receipt of this report in October last the Board of Trade at once made inquiries into the particular case referred to by the medical officer, and the defects which had been observed were made good. Similar action is always taken when particular cases are reported by the local sanitary authorities.

TUESDAY, MARCH 30TH.

Glycerinated Calf Lymph in Ireland.

Answering Mr. LUPTON, Mr. BIRRELL said: The Local Government Board for Ireland inform me that the glycerinated calf lymph procured by them under contract from the National Calf Vaccine Institute, Sandymount, Dublin, is, before issue from the Board's vaccine department, tested as to its efficiency and subjected to careful bacteriological examination. Its purity is thus insured. The dispensary medical officers throughout the country being aware of these arrangements to secure proper lymph, a further certificate of purity appears to the Board to be unnecessary.

WEDNESDAY, MARCH 31ST.

Aliens and Trachoma.

Mr. RUPERT GUINNESS asked the Secretary of State for the Home Department whether his attention had been drawn to the number of newly arrived aliens who presented themselves at the Royal London Ophthalmic Hospital for treatment for long-standing trachoma, and to the fact that as many as 90 per cent. of the sufferers from this disease during the six months with which the last report of the hospital dealt were aliens, and to the chairman's recommendation that aliens who had contracted this disease should be prevented from landing in this country; and whether, in view of the fact that this disease was being introduced into this country on an extensive scale by aliens who had not submitted themselves to an inspection at an immigration port, he would consider the expediency of lowering the number of alien immigrants who could be carried in a non-immigrant ship at all events as concerned vessels bringing aliens to the port of London.—Mr. GLADSTONE replied: I understand that the statement mentioned in the first part of the question was made by the chairman of the Royal London Ophthalmic Hospital at the recent annual general meeting of the governors. Without altogether accepting as correct the further statement made by the honourable Member, I may say that I am asking for further and more exact information as regards the general statements contained in the question.

BOOKS, ETC., RECEIVED.

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BERGMANN, J. F., Wiesbaden. (F. BAUERMEISTER, Glasgow.)

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Landläufige Ir[illegible] Geisteskranken Von Dr. med. Osw[illegible] Price 2*s*. 3*d*.

Die Untersuchungsmethoden und Erkrankungen der männlichen und weiblichen Harnorgane fur Aerzte und Studierende in XVII. Vorlesungen. Von Dr. L. Burkhardt und Dr. O. Polano. Price 10*s*.

Was leisten die Röntgenstrahlen in der Rhino-Laryngologie? Von Prof. Dr. H. Burger. Price 5*s*.

Der Anteil der Funktion an der Entstehung von Nervenkrankheiten. Von Dr. Ludwig Edinger. Price 2*s*. 3*d*.

Die Operative Geburtshilfe der Praxis und Klinik. In zwanzig Vortragen. Von Dr. Hermann Fehling. Price 4*s*.

T[illegible] seitiger Blindheit und [illegible] orfen. Von Stabsarzt [illegible]

D[illegible] er Hirnhäute und der [illegible] Von Dr. Otto Körner. Price 5*s*.

Dermatologischer Jahresbericht. Unter Mitwirkung von Fachgenossen und in Verbindung mit W. Tamms. Herausgegeben von O. Lassar. Erster Jahrgang: uber das Jahr, 1905. Price 18*s*.

Somnambulismus und Spiritismus. Von Dr. L. Loewenfeld. Price 2*s*. 3*d*.

Kurzgefasster praktischer Ratgeber fur Irrenärzte und solche, die es werden wollen. Von Dr. Georg Lomer. Price 1*s*. 3*d*.

Uber das Verhalten Hamolytischer Serumstoffe beim gesunden und kranken Kind. Von Dr. Ernst Moro. Price 3*s*.

Lehrbuch der Nachbehandlung nach Operationen. In Vorlesungen. Fur Studierende und Aerzte. Bearbeitet von Prof. Dr. Paul Reichel. Price 12*s*.

D[illegible] mittelst der Probekost, ihre [illegible] und ihre Diagnostischen und [illegible] Prof. Dr. Adolf Schmidt. Zweite vermehrte und verbesserte Auflage. Price 3*s*.

Akute Uberanstrengung des Herzens und deren Behandlung. Von Professor Dr. Schott. Vierte, erweiterte Auflage. Price 2*s*. 3*d*

Unfälle durch Elektrische Starkströme. Eine klinische und gerichtlich-medizinische Studie. Von Dr. E. D. Schumacher. Price 2*s*. 3*d*.

Das Auge des Geburtshelfers. Eine Studie über die Beziehungen [illegible]-gynäkologischen Fühlen. Von [illegible]

D[illegible] Von Dr. Hermann Triepel. Price 6*s*.

Schemata fur Augenmuskellähmungen. Von Dr. E. Wölfflin. 25 Blatt in Mappe. Price 3*s*.

Frankfurter Zeitschrift für Pathologie. Herausgegeben von Eugen Albrecht. Erster Band, zweites Heft. Price 5*s*. Zweiter Band Heft I., Price 7*s*. Zweiter Band, Heft 2/3 Price 7*s*.

Stereoskopische Bilder, 24 Tafeln zum Gebrauch für Schielende. Von Augenarzt Dr. A. v. Pflugk. Zweite Auflage. Price 3*s*.

CASSELL AND COMPANY, LIMITED, London, New York, Toronto, and Melbourne.

A Manual of Operative Surgery. By Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D., F.R.C.S., and Jonathan Hutchinson, F.R.C.S. Third edition. In Two Volumes. Vol. I. Price 18*s*. net.

Mind and Work. By Luther H. Gulick, M.D. Price 3*s*. 6*d*. net.

FISCHER, GUSTAV, Jena.

Die Wassermannsche Serodiagnostik der Syphilis in ihrer Anwendung auf die Psychiatrie. Von Dr. med. Felix Plaut. Price M.4.50.

GLAISHER, HENRY J., London.

Joseph Toynbee, F.R.S., Aural Surgeon. By Gertrude Toynbee. Price 3*d*. net.

HIRSCHWALD, AUGUST, Berlin.

Sammlung Klinischer [illegible] ogie und Therapie der Stoffwechsel-u[illegible] Herausgegeben von Prof. Dr. Carl v[illegible] Price M.2.80

MARHOLD, CARL, Halle a. S.

Beiträge zu neueren therapeutischen Massnahmen in der Geburtshilfe. Von P. Baumm, Breslau. Über Parametritis posterior und ihre Behandlung. Von M. Graefe. Einzelpreis dieses Heftes, M.1.50.

Die parenchymatöse Hornhaut-Entzundung. Von Dr. Karl Hoor. Einzelpreis dieses Heftes, M.3.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BOSTOCK, A. H., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer for the Oving and Boxgrove Districts of the Westhampnett Union, Chichester.

MANSON, J. S., M.B., Ch.B. Edin., has been appointed Honorary Assistant Surgeon to the Warrington Infirmary.

MILNE, LINDSAY S., M.B., Ch.B. Edin., has been appointed First Assistant in the Russell Sage Institute for Pathology, New York, U.S.A.

[illegible] land.

ROSE, WILLIAM, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Consulting Surgeon to the British Hospital for Mental Disorders [illegible]

WORGER, THOMAS HEWLETT, M.R.C.S., L.S.A., has been reappointed Medical Officer of Health for the Radstock (Somerset) Urban Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ALL SAINTS HOSPITAL FOR OUT-PATIENTS, Buxton-street, E.—Honorary Medical Officer for Monday afternoons.

BARKING TOWN URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary £365 per annum.

BARNSLEY, BECKETT HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

BIRKENHEAD UNION INFIRMARY AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer. Also Resident Surgical Officer. Salary in each case £80 per annum, with board, washing, and attendance.

BIRMINGHAM, CITY OF.—Assistant Medical Officer of Health. Salary £250 per annum.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £100 per annum.

BRISTOL, BRISLINGTON HOUSE PRIVATE ASYLUM.—Senior Resident Physician.

BRISTOL GENERAL HOSPITAL.—House Physician, Casualty House [illegible] sician for six months. Salary [illegible] —Resident Medical Officer, un- [illegible] with apartments, attendance, &c.

BROWN ANIMAL SANATORY INSTITUTION.—Superintendent. Salary £300 per annum.

CANCER HOSPITAL, Fulham-road, London, S.W.—Surgical Registrar, *Salary £26 5s. per annum.*

CANTERBURY BOROUGH ASYLUM.—Locum Tenens Assistant Medical Officer. Salary 3 guineas a week, with board, lodging, laundry, and attendance.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Surgeon, [illegible] per annum, with board and residence.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £80 [illegible] and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon; also Assistant Casualty Medical Officer; both unmarried, for six months. Salary in each case £30, with board and residence.

LANARK MIDDLE WARD ISOLATION HOSPITAL, near Motherwell.—[illegible] Salary £100 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—Resident Medical Officer for six months. Salary £30, with board and lodging.

[illegible] rgeon. Also Two [illegible] per annum, and of [illegible] Surgeon. Salary [illegible] Superintendent. Salary £425 per annum.

MANCHESTER WORKHOUSE, Crumpsall.—Assistant Medical Officer, unmarried. Salary £130 per annum, with apartments, washing, and attendance.

MARGATE, ROYAL SEA BATHING HOSPITAL.—*Honorary Assistant Visiting Surgeon.* Also Resident Surgeon as Junior and Senior. Salary of the two offices at rate of £80 and £120 per annum respectively, with board and residence.

METROPOLITAN BOROUGH OF ST. MARYLEBONE.—Medical Officer of Health. Salary £600 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE [illegible] geon for six months. Salary £20, with board, lodging, and washing.

OLDHAM INFIRMARY.—Junior House Surgeon. Salary £75 per annum, with board, residence, and washing.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician and House Surgeon for six months. Salary in each case at rate of 50 guineas per annum, with board and residence.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

RAINHILL, NEAR LIVERPOOL, COUNTY ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, attendance, and washing.

[illegible] missions.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.—Honorary Physician. Also Honorary Anæsthetist.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Clinical Assistants.

SOUTHPORT EDUCATION DEPARTMENT.—School Medical Officer. Salary £250 per annum.

[illegible] geon, with [illegible] Salary [illegible]

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Resident Assistant [illegible] Salary at rate of £50 per annum.

[illegible] FOR CONSUMPTION.—Assistant [illegible] ed. Salary £100 per annum.

[illegible] te street, Chelsea, S.W.—House [illegible] and lodging.

WA[illegible] urgeon, unmarried [illegible] washing.

WA[illegible] HOSPITAL.—House [illegible], with apartments, board, and service.

Births, Marriages, and Deaths.

BIRTHS

[illegible] a son.

[illegible] road, Wimbledon, [illegible] ay, B.A., M.B. [illegible] Ayr, the wife of [illegible] rviving only 36 hours.

PALIN.—On March 26th, at The Oaks, Fakenham, Norfolk, the wife of Edward W. Palin, M.A., M.B. Oxon., M.R.C.S., L.R.C.P., of a daughter.

SCOTT.—On March 31st, at 46, Queen Anne street, Cavendish-square, W., the wife of Sydney R. Scott, M.S. Lond., F.R.C.S. Eng., of a son.

SPITTA.—On March 24th, at Wimbledon, S.W., the wife of Harold Spitta, M.D., of a son.

DEATHS.

BLAIKIE SMITH.—On March 24th, at Villa Victoria, San Remo, Patrick Blaikie Smith, M.D., late of Aberdeen.

[illegible] Lodge, Worthing, Augustus [illegible], L.S.A., Senior Surgeon [illegible] Gervis, M.D., M.R.C.S., [illegible]

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE RATE OF COOLING OF VARIOUS POULTICES.

DURING the last few years the idea has gained ground that the old-fashioned bread and linseed poultices do not retain their heat so long as poultices of the cataplasma kaolini type, made from kaolin and glycerine. But it would appear, from experiments made by Dr. J. D. Pilcher in the Pharmacological Laboratory of the Western Reserve University (*Journal of the American Medical Association*, March 6th), that this idea is baseless. A comparison of the rates of cooling of several poultices showed that a linseed poultice cools slightly more slowly than a kaolin poultice. During the first 20 minutes, down to 75° C., the temperatures ran fairly parallel, and then the temperature of the linseed poultice remained about 5° C. above that of the kaolin poultice until the close of the experiment. Dr. Pilcher found that oatmeal, bread, and corn-meal poultices apparently retain their heat even somewhat better than the linseed poultice; the curves show a difference of from two to eight degrees between the temperatures of these masses and kaolin poultice. In order to determine the reason for the rapid cooling of the latter, experiments were made comparing its rate of cooling with that of its chief constituents. It was observed that dry kaolin cools more quickly than the kaolin poultice, while glycerine cools much more slowly. The temperature curves of glycerine and linseed poultice are practically the same. It was also found that water cools at about the same rate as kaolin poultice, while soft paraffin cools rather more quickly. These experiments are of great practical value, since they demonstrate the superiority of the time-honoured and cheap linseed or bread poultice over the much more expensive kaolin poultice. In cases where it is required to cover large areas the price of the latter becomes prohibitive for poor patients, whereas they are able to purchase for a few pence sufficient crushed linseed to cover a large area with a poultice of considerable thickness.

A SIMPLE EXPEDIENT.

To the Editor of THE LANCET.

SIR,—In THE LANCET of March 6th I notice a reference to a "clip attachment" for preventing clinical thermometers falling out of the pocket when one stoops. This useful article has come too late for me, however, who have for many years used a device as simple and inexpensive as it is efficient, and which is already in the possession of every medical practitioner and can be applied in a few seconds. Having broken many clinical thermometers in stooping—e.g., to inflate cycle tyres—I thought of a fountain-pen clip, but rejected it as only adding to the many contents of one's pockets, and bethought myself of the admirable non-slipping qualities of rubber. I found that by twisting a small thin rubber band several times around the thermometer case or fountain-pen it was impossible for such an article to fall out of the pocket, and I cordially recommend this simple device to all in need of it. My only fear is that it will not meet with the approval of makers of clinical thermometers, whose output its adoption will certainly restrict.

I am, Sir, yours faithfully,

Driffield, East Yorks, March 29th, 1909. A. T. BRAND, M.D. Aberd.

AN ENEMA SYRINGE AS A FIRE EXTINGUISHER.

"M. W. G." sends us an account of an exciting experience which she had recently whilst nursing a confinement case in the South of England, and in which the situation appears to have been saved by her prompt action. The case was in an old house, and one morning a large oak beam in the chimney of the patient's room, about four feet above the grate, caught fire. No obvious means of extinguishing it being at hand, "M. W. G." bethought herself of her Higginson's enema syringe, and standing a jug of water in the grate she used the syringe to play upon the blazing beam for nearly an hour with such effect that the fire was extinguished. Her patient fortunately slept through the occurrence. It was found next morning that the beam had been burnt in 3 feet of its length and 6 inches of its depth, so there is every reason to think that the house owes its security to the nurse's resourcefulness and hard work. We congratulate "M. W. G." on the happy issue, the more especially as we know of a previous instance in which the same device was applied unsuccessfully on the occasion of a fire low down in the chimney of a ward in a south coast hospital. On that occasion the patients by no means slept through it all, for pailfuls of water had to be thrown up the chimney, and by the time the fire was extinguished the ward was in a state of partial flood, and a heated discussion was proceeding between the house surgeon and the local constabulary as to whether the fire brigade should or should not be summoned.

MEDICAL GOSSIP FROM 1847.

A CORRESPONDENT sends us the following extracts from the *Illustrated London News* of March 13th, 1847, commenting upon the perfection of anæsthesia at so early a date. The description of the patient's conduct is certainly interesting but hardly seems consistent with a very complete anæsthesia. "A considerable portion of the lower jaw-bone of a person named Riley was removed at the Devonport Workhouse a few days ago without the slightest pain, the patient being under the influence of ether. He smiled and talked while the parts were being dissected." Our correspondent adds Lower in the same column is this paragraph:—"At the last returns the Income Tax Act no fewer than 30 surgeons practising in London admitted that their professional earnings amounted to £10,000 per annum each, and of these three were upwards of £20,000 each" It would be interesting to know how this compares with the returns for last year.

THE AERIAL LEAGUE.

A MEETING of the Aerial League of the British Empire is to be held at the Mansion House on April 5th at 3 P.M., the Lord Mayor presiding. The league is a non-political organisation and its object is stated to be "to secure and maintain for the Empire the same supremacy in the air as it now enjoys on the sea." The league wishes to bring home to the minds of the inhabitants of the Empire in general and of London in particular that while other countries are spending enormous sums of money for the encouragement of "aviation" England is doing practically nothing. A preliminary meeting was held at the Carlton Hotel on Feb. 21st, which made it plain that there is a large amount of interest taken in the matter by people of all classes, which only wants organising in order to become a focus for a national movement. With the many political problems which aerial locomotion may bring to a head we as medical journalists have nothing to do. But when flying becomes as common a mode of locomotion as other forms of travel are now, there will be many problems in connexion with the transmission of epidemic diseases, such as cholera and plague, which will demand the closest attention from those whose duty it is to protect their countries from possible invasion by such disease.

A CORRECTION.

THE Dusmo Company, Limited, of West Ham-lane, Stratford, E., point out that in our analytical notice of their dustless sweeping powders last week the name "Lyndus" applied to one of them should have been written *Lydus*.

◆

K. R.—We are making inquiry into the matter.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION (Hon. Secretaries—J. Gray Duncanson, H. Charles Cameron): at 4.30 P.M.

Papers:

Dr. Gordon Sharp: Experiments and Experiences with the Heart Tonics—Pharmacological and Clinical.

Dr. William Bain: The Action of Digestive Ferments upon Each Other.

PATHOLOGICAL SECTION (Hon. Secretaries—Leonard S. Dudgeon, O. Grünbaum) at the National Hospital, Queen-square, W.C: at 8.30 P.M.

Dr. F. W. Mott, F.R.S., and Dr. Edgar Schuster: The Examination of the Brain from a Case of Death by Electric Shock.

Dr. E. F. Buzzard and Dr. G. M. Holmes: The Post-mortem [illegible] of Six Cases of Myasthenia Gravis.

[illegible] of the Upper Motor Neurones

[illegible] ions of the Oculo-motor Nuclei [illegible] th Bilateral Ophthalmoplegia.

Card Specimens:

Dr. G. Sutherland: Post-Mortem Specimens from a Case of Myasthenia Gravis.

Dr. S. A. K. Wilson: Specimens from a Case of Myasthenia Gravis.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles). 3 P.M., Demonstration:—Dr. F. Thomson: Infectious Fevers (at the North-Eastern Fever Hospital, St. Ann's road, N.).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin [illegible] (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., [illegible] (Dr. A. E. Giles). Clinics:—Medical [illegible] Whiting); Surgical (Mr. H. W. Carson); [illegible] cal In-patient (Dr. G. P. Ch[illegible] Dr. F. Thomson: Infectious Fevers ([illegible] pital, St. Ann's road, N.).

FRIDAY.—10 [illegible] atient (Mr. H. Evans). 2.30 P.M., [illegible] Clinics:—Medical Out-patient [illegible] R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

Mo[illegible] Duckworth: 4 P.M., Mr.

Tu[illegible]

We[illegible] F. Taylor: Out-patient [illegible] 11 A.M., Eye.

Th[illegible] ankin: Medi- [illegible] M., Dr. Salo- [illegible] ns:—10 A.M.,

Fr[illegible] . Bradford: Out-patient [illegible] 12 noon, Skin.

Sa[illegible] nstrations:—

WEST[illegible] NERVOUS SYS[illegible]

Mon[illegible]

Tues[illegible]

Wed[illegible]

Thur[illegible]

Frid[illegible] P.M.,

C[illegible]

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (5th).—London (2 P.M.), [illegible] Thomas's (3.30 P.M.), St. George [illegible] St. Mark's (2.30 P.M.).

TUESDAY (6th).—[illegible] St. Thomas's (3 30 [illegible] West-minster (2 P.M [illegible] College (2 P.M.), St. G[illegible] Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2 30 P.M.), Throat, Golden-[illegible]

[illegible] and Ear (Minor, 9 A.M., Major, 2 P.M.).

[illegible]

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who m[illegible] supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 1st, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall	Solar Radio in Vacuo	Maximum Temp Shade	Min Temp.	Wet Bulb	Dry Bulb.	Remarks.
Mar.									
"									
"									
"									
"									
" 31	29·60	S.W.	0·31	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
April 1	29·86	N.	...	53	45	44	43	44	Overcast

D[illegible]

Communications, Letters, &c., have been received from—

A.—Mr. Wallace Ashdowne, Lond.; American Commerce Co., Lond.; Ardath Tobacco Co., Lond.; Aerial League of the British Empire, Lond., Joint Hon. Secretary of; Anderson's College Medical School, Glasgow, Hon. Secretary of; Æsculapius.

B.—Mr. Astor Boisselier, Lond.; Mr. George N. Biggs, Lond.; Dr. J. S. Boden, Lond.; Brislington House Asylum, Bristol; Birmingham Corporation, Clerk to the; Brisbane, Secretary of Department of Public Health; British Oxygen Co., Lond.; Mr. C. Birchall, Liverpool; Mr. Hugh W. Bayly, Lond.; Messrs. J. B. Brooks and Co., Birmingham; Dr. G. B. Batten, Lond.; Bucks County Education Committee, Aylesbury; Bristol General Hospital, Secretary of; Birmingham and Midland Free Hospital for Sick Children, Secretary of; Messrs. C. Barker and Sons, Lond.; Messrs. Blundell and Rigby, Lond.

C.—Dr. W. H. Cheetham, Guiseley; Mr. Somerton Clark, Dera Ismail Khan; Cockermouth Rural District Council, Medical Officer of Health of; Dr. P. J. Cammidge, Lond.; County Asylum, Rainhill, Clerk to the; Cheltenham General Hospital, Secretary of; Continental Tyre and Rubber Co., Lond.; Messrs. Carters, Lond.; Messrs. Cassell and Co., Lond.; Mr. Harrison Cripps, Lond.; Mr. H. M. Cowdroy, Sydney; Dr. Carey Coombs, Clifton; Canterbury Borough Asylum, Clerk of; Mr. F. W. Cory, Leeds; Messrs. J. and A. Churchill, Lond.; Mr. F. W. Clarke, Chorlton-cum-Hardy.

D.—Dr. H. R. Dean, Berlin; Dr. H. W. Drew, Ballyduff; Mr. R. W. Doyne, Lond.; Denver Chemical Manufacturing Co., Lond.; Mr. F. Diemer, Cairo; Dusmo Co., Lond., *Director of*; Messrs. Dowie and Marshall, Lond.; Messrs. Davies, Sons, and Co., Derby; The Distillers' Co., Edinburgh, Manager of; Daimler Motor Co., Lond., Manager of.

E.—Mr. H. Elliot-Blake, Bognor; Mr. A. R. Elliott, New York.; R. E. W.; E. J. U. C.

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The Goulstonian Lectures

ON

SOME DISORDERS OF THE CEREBRAL CIRCULATION AND THEIR CLINICAL MANIFESTATIONS.

Delivered before the Royal College of Physicians of London on March 11th, 16th, and 18th, 1909,

BY ALFRED E. RUSSELL, M.D. LOND., F.R.C.P. LOND.,
PHYSICIAN TO OUT-PATIENTS, ST. THOMAS'S HOSPITAL.

LECTURE II.[1]

Delivered on March 16th.

THE CORRELATION BETWEEN THE CIRCULATORY CHANGES POSTULATED AS THE PRECIPITATING FACTOR IN THE EPILEPTIC FIT AND THE VARIOUS SYMPTOMS OF, AND THE RECOVERY FROM, THE ATTACK.

MR. PRESIDENT AND GENTLEMEN,—For any theory of the mechanism of the epileptic fit to rest on a sound basis, it is necessary that it should offer a reasonable explanation of, or at least not be inconsistent with, the various manifestations observed in the attacks. It is submitted that the circulatory failure here postulated *does offer a more reasonable* explanation than any hypothesis yet brought forward.

1. *The aura.*—Francis Hare maintains that the explanation of the aura is to be sought in the peripheral vaso-constriction which he postulates as preceding the cardiac inhibition. That a partial cerebral anæmia is capable of giving rise to the phenomena of an epileptic aura has been demonstrated experimentally by Leonard Hill,[2] who says: "I myself have twice produced clonic spasms in myself by compression of one carotid. The first effect on applying the compression was a *sensation in the eye on the same side; then there followed a sensory march of formication down the opposite side of the body. This began in the fingers, spread up the arm, then down the leg.* Finally clonic spasms of the hand occurred, accompanied by an intense feeling of vertigo and alarm."

The association of epilepsy with migraine is well known, and in a unique case recorded by Gowers of a girl who was subject to both migraine and epilepsy, the visual aura preceding the migraine was on one occasion followed by an epileptic fit.

Some of the prolonged symptoms in the more abnormal faints are obviously vaso-motor or cardiac in origin, and yet were they of momentary duration they would be typical epileptic auræ. Or, as Gowers puts it, in discussing one case with attacks of cardiac and respiratory distress: "Symptoms usually momentary, as the aura of epilepsy, become protracted, extended, as it were, into a vagal attack."

2. *Unconsciousness.*—In the absence of an aura (and it is noteworthy that it is frequently absent) the first feature in an epileptic fit is sudden loss of consciousness. So sudden may it be that the patient falls with the utmost violence. Current views on the pathology of epilepsy afford no satisfactory explanation of this. Yet so dramatic a feature should be susceptible of some simple explanation. The loss of consciousness is not caused by the convulsions. It precedes them in point of time, and in tetanus and strychnine poisoning the spasms may be every whit as severe as those of idiopathic epilepsy, but are not attended with unconsciousness. Now one of the most obvious causes, if not almost the only one, of sudden unconsciousness (excluding severe cranial injuries) is a sudden interference with the flow of blood to the brain.

The phenomena of the epileptic fit are commonly explained as being the result of an intense discharge from the cortical grey matter. On the motor side this discharge leads to severe muscular spasms, to excess of disordered function. As regards consciousness, this is absolutely and suddenly lost. I cannot understand how this can be caused by a discharge. It seems to me that the very opposite factor—viz., cessation of activity—must be involved. Consciousness is, I think, too commonly regarded as too mysterious to be governed by ordinary physiological processes, but the brain is certainly very tenacious of this attribute and a symptom so extraordinarily dramatic and serious as sudden unconsciousness demands an explanation. Save for conditions associated with the vascular system, such as cerebral embolism, stoppage of the heart, sudden faint, &c., sudden unconsciousness is an almost unknown event. But with a *sudden cessation (or extreme enfeeblement) of the whole cerebral circulation* unconsciousness *must* occur. The phenomena of heart block show that, in proportion as the period of cardiac asystole increases, we have varying degrees of cerebral failure, transient unconsciousness indistinguishable from that of *petit mal*, attacks with very transient spasm, and, finally, definite epileptic fits. Inasmuch as it has been shown that in some cases of idiopathic epilepsy cardiac inhibition does occur and precedes the onset of the fit it is difficult to avoid the conclusion that the unconsciousness and the fit are the direct results of the cardiac inhibition.

3. *Convulsions.*—The classical experiments of Kussmaul and Tenner prove the intimate relationship existing between a sudden cerebral anæmia and the production of convulsions. Their experiments were, moreover, not masked by the administration of anæsthetics. It is also well known that severe hæmorrhage in man can give rise to the most typical epileptic fit.

(*a*) *The mechanism of tonic spasm.*—This is a problem of great difficulty. Spasticity of muscles is observed in lesions affecting the pyramidal tract, and is accounted for by over-action of the spinal cord when the inhibitory influence of the brain is removed. In an epileptic fit tonic spasm appears with great suddenness. On the hypothesis of a sudden failure of the cerebral circulation it might be attributed to a removal of the inhibition influence of the brain (possibly allied to the decerebrate rigidity described by Sherrington in animals with transection of fore-brain). It is well known that sudden death may occur during puncture of lung for suspected pleural effusion and during the washing out of empyema cavities. In a paper published by the author on this subject[3] the insertion of the exploring needle was immediately followed in one case by death from cardiac failure, and the point of interest in this connexion is that it was accompanied by tonic extensor spasm of arms and convergent squint. The condition of the legs was not observed, but it is probable that they shared in the spasm. Similarly, tonic spasm occurred in two cases recorded by Cayley and by Vallin in which cardiac inhibition occurred during pleural lavage. It occurs frequently on experimental ligation of the cerebral arteries in animals. These facts *support the view that the tonic spasm of the epileptic fit is* due to sudden cerebral anæmia.

(*b*) *Clonic spasms.*—In the case of sudden death above recorded after exploratory puncture of lung only tonic spasm was observed. The change from tonic to clonic spasms in an ordinary epileptic fit is of great interest. Long Fox,[4] who attributed the loss of consciousness and the tonic spasm to cerebral vaso-constriction, ascribed the clonic convulsion to a "gradual yielding of the vaso-motor constriction, allowing at first more blood to enter the arteries than during the period of tonic spasm, but yet far less than is necessary for controlled movement or for rest." In this connexion a case recorded by Walter Broadbent[5] is of great importance.

The patient was a woman, an epileptic, aged 44 years, who had suffered from rheumatic fever in childhood and showed symptoms of cardiac disease One evening, when talking to her daughter, she suddenly became unable to speak plainly and became rigid. The daughter stated that, instead of the usual fit, there was irregular jerking confined to the right arm and leg The left arm and leg remained absolutely passive She passed urine in the fit. She was unconscious for five days after the fit She then showed complete left hemiplegia, hemianæsthesia, and hemianalgesia. Death occurred on the ninth day. Post-mortem, in the right middle cerebral artery, just beyond the point of origin, a small embolus was found with a
distal thrombus for
vessel was softened
surrounding parts,
state of extreme softening

The importance of this case lies in the fact that the patient was the subject of epilepsy. It is presumable that the embolus gave rise to a fit in a subject prone to epilepsy, but the fit was represented by right-sided spasms only. The left side remained absolutely passive and the embolus in the right middle cerebral artery would prevent the return of blood to the right half of the brain after the cardiac inhibition was passing away.

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[1] Lecture I. was published in THE LANCET of April 3rd, 1909, p. 963.

[2] The Physiology of the Cerebral Circulation, p. 142.

[3] St. Thomas's Hospital Reports, 1899, vol. xxviii., p. 465.

[4] The Influence of the Sympathetic on Disease, 1885, p. 252.

[5] Cerebral Embolus during an Epileptic Fit, Brain, 1903, vol. xxvi., p. 447.

4. *The physiological mechanism underlying recovery from an epileptic fit.*—Whatever be the immediate factor precipitating an epileptic fit, it is one which is very transient in its action and speedily recovered from. It is one, moreover, which is obviously capable of being brought into action repeatedly. In epilepsy of long duration the patient exhibits a very marked mental degradation, but the effect produced by each fit is imperceptible. Quite apart from the effect produced on the brain by the repeated attacks of cerebral anæmia here postulated as the essential factor of the fit, the intense venous engorgement resulting from the convulsive movements and the asphyxial character of the blood would presumably inflict considerable damage on the brain substance, damage, moreover, repeated over and over again. It would not appear unreasonable to assume that the slight morbid changes described in the brains of epileptics are merely the results of these cumulative lesions. Nothing is more striking than the completeness of recovery from an epileptic fit. Whatever the cause, it seems to pass away absolutely. On the supposition that the fit is due to a sudden transient cerebral anæmia, produced by cardiac inhibition, recovery follows on return of the circulation. It might be urged that if the fits are due to cardiac inhibition it should occasionally happen that the heart should stop permanently and that death in a fit should be at any rate not uncommon. If the stimulus responsible for inhibition be sufficiently intense death doubtless would result, as in the case of sudden death recorded above on exploratory puncture of the lung. But though experimental stimulation of the vagus nerve with very powerful stimulus does rarely produce permanent arrest of the heart, it is a fundamental physiological fact that there is a practically irresistible tendency for the heart to recommence beating, even during the stimulation—the so-called *vagus escape of the heart.* This escape of the heart is submitted as a feasible explanation of the recovery from the fits in those cases which are associated with actual cardiac inhibition, whilst in those dependent upon cerebral arterial spasm the fit would subside with the disappearance of the spasm.

5. *Post-epileptic phenomena.*—Though recovery may be [illegible]ry rapid after a mild fit there is commonly observed [illegible]ter the cessation of the convulsive movements a period [illegible]uring which the patient is comatose, a period frequently followed by natural sleep varying in duration. On the hypothesis of a sudden failure of the cerebral circulation there has been a profound though temporary disturbance of the nutrition of the whole nervous system. As the result there has been an intense motor disturbance. The sensory side of the brain has doubtless been the site of an equally severe disturbance, the earliest sign of which is sudden unconsciousness; but inasmuch as consciousness is requisite for the recognition of sensory disturbances the presence of such is of necessity masked. Yet the sensory apparatus would presumably be affected equally profoundly with the motor, so that marked exhaustion of the sensory elements, with resulting coma and sleep, is only to be expected. The headache following a fit is probably attributable to the intense venous engorgement of the cerebral membranes attending the convulsions. The post epileptic mental disturbances after major attacks are of interest; the engorgement of the cortex and the asphyxial state of the blood might reasonably account for them. Those occurring after minor attacks, however, belong to a different category. On the hypothesis under discussion they must be due to some transient disturbance of function in the grey matter, the result of the circulatory failure; a disturbance moreover manifesting itself after the attack and lasting for a variable time. The exact pathology of such conditions is, in the present state of our knowledge, impossible of determination, whatever view be taken of the pathology of epilepsy.

ON VASO-MOTOR SPASM IN THE BRAIN AS A CAUSE OF EPILEPSY.

This theory of the method of production of cerebral anæmia as the cause of epilepsy has had many adherents. If, as this paper is written to maintain, epilepsy is due to a sudden failure of the cerebral circulation, then vaso-motor spasm of the cerebral arteries, if intense enough, could certainly act as an adequate excitant of a fit. Direct demonstration of this as the excitant would obviously be very difficult, but if it can be proved that such vaso-motor activity does occur the possibility of its being concerned in the genesis of fits would be established. Until recently it was held that there was no evidence of vaso-motor activity in the cerebral vessels, but the demonstration of a copious networ of nerve fibres to the cerebral blood-vessels demands a revisio of the position. Harvey Cushing[6] notes that, "contrary t the positive statements of many, substances like epinephri will blanch the pial vessels over the area of its applicatio as will occasionally a jet of cold water against the brain o the faradic current used for cortical stimulation." Brod and Ferrier[7] also found that *on injecting adrenalin into th* basilar artery of the carefully removed brain, and measure ment of the outflow from the torn sinuses, with a moderat amount of adrenalin distinct diminution of the outflo occurred, and with a larger quantity complete stoppage.

The phenomena of Raynaud's disease are also worthy o study in this connexion. The pathology of this affection i far from clear. In some cases there appears to be no doub but that the symptoms are due to arterial disease; but it generally admitted that vaso-constriction in the affected par is the dominant factor. It is occasionally associated wit erythromelalgia. Certain ocular and cerebral complication occasionally occur in the course of the attacks of Raynaud' disease which are readily explicable on the supposition o an active constriction of the cerebral arteries. Thus i Raynaud's "New Researches"[8] a man, aged 59 years, wit attacks of local asphyxia also suffered from paroxysma attacks of impairment of vision. Ophthalmoscopically th arteries were found to be narrowed with here and the partial diminutions which were actually seen to occu persist for a certain time and then disappear under th observer's eyes. In another case of Raynaud's[9] a ma aged 22 years, was subject to attacks of local asphyxi which occurred when the patient went into the ope air. The patient also experienced *at the moment the commencement of the cyanosis a notable obscuration sight* which disappeared at the time when the face and hand returned to their normal colour. Ophthalmoscopically th retinal arteries were clearly seen to be narrowed when th local asphyxia was at its height and these vessels *becam widened at the moment when reaction set in.* Raynau attributed these ocular phenomena to spasmodic contractio of the retinal arteries. Other cases of narrowing of retina arteries with dimness of vision are on record. A mos interesting case published by Thomas and Osler[10] shows th concurrence of epileptic convulsions with attacks o Raynaud's disease. It seems reasonable to assume tha the convulsions were the result of vaso-constrictio affecting the cerebral vessels, and it is very interesting to note that Raynaud's disease is apt to b associated with epileptic fits. In another case o Raynaud's disease recorded by Osler[11] recurrent attacks o hemiplegia and aphasia occurred, concurrently with local symptoms in the fingers and hands. The identity of the pathological process underlying the cerebral attacks and the local syncope and gangrene can hardly be called in question. The patient died comatose with an attack of gangrene of the hand. The terminal coma is interesting; the possibility of its being due to cerebral œdema must be considered. The hemiplegic attacks might be due to arterial spasm or œdema, for, as already mentioned, these two phenomena seem to be almost interchangeable in Raynaud's disease.

Migraine.—The association of epilepsy with migraine is of considerable interest. It occasionally happens that periodical attacks of migraine are replaced by ordinary epilepsy, the migraine then ceasing. In migraine there is undoubted evidence of abnormal vaso-motor action. Chilliness of the skin is common; the temporal artery on the affected side is often contracted and hard. Relief of the pain often attends compression of the carotid artery. This, and the fact that the pain in the head is of a throbbing character, suggests that the old explanation of a vaso-dilatation of the cerebral vessels is correct. Such a dilatation of the vessels, with resultant increased tension of the dura, &c., would be enough to account for the pain. The dilatation can, moreover, be seen. Thus, Mollendorff[12] points out that "during the attacks the background of the eye on the suffering side was of a bright scarlet red, the optic papilla red and œdematous, the arteria and vena centralis retinæ enlarged, the latter knotty and very tortuous." There is much to be said for the view that the symptoms of migraine depend upon abnormal vaso-motor activity and that the headache is the result of vaso-dilatation. Gowers[13] records the following unique cases:—

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[6] S [illegible] ations concerning States of Inc [illegible] Journal of the Medical Scie [illegible]

[7] Ferrier: Harveian Oration, 1902, The Heart and Nervous System.

[8] Raynaud On Local Asphyxia, New Sydenham Society, translation, 1888, p. 155.

[9] Raynaud: Loc cit., p 164.

[10] A Case of Raynaud's Disease associated with Convulsions and Hæmoglobinuria, Johns Hopkins Hospital Reports, 1891, p. 114.

[11] The Cerebral Complications of Raynaud's Disease, American Journal of the Medical Sciences, 1896, vol. cxii., p. 522.

The first case was that of a girl, aged 16 years, who had been subject to periodical attacks of migraine since the age of five years. At 13½ she had an epileptic fit during sleep, and since then three others, two during sleep and one when awake. Since the first fit the headaches had been frequent, but were preceded by a brief but very definite visual aura. The interesting point is that the single epileptic fit which occurred when she was awake was preceded by precisely the [illegible] is that local [illegible] attack

The second case was that of a man aged 60 years, who had become [illegible] aura was succeeded by severe [illegible] by quite sudden loss of con- [illegible] erved, on several occasions his [illegible] passed unconsciously. Before [illegible]

Migraine is also occasionally accompanied by transient aphasia. Conditions such as these suggest very strongly that abnormal vaso-motor phenomena are concerned, and transient spasm of cerebral arteries is not an unreasonable hypothesis. The evidence for the existence of vaso-motor activity in the brain is therefore partly direct and partly indirect. It is obviously a matter of great difficulty in clinical work to demonstrate such alterations, owing firstly to their evanescence and secondly to the fact that when they have subsided no evidence of their existence is left behind.

PETIT MAL.

A consideration of the cerebral phenomena attending cases of heart-block shows us that the attacks present an increasing degree of severity proportional to the length of the period of asystole. There may be merely a transient giddiness, a dazed feeling, a "turn," or the head may drop forward momentarily, the patient recovering himself immediately; or unconsciousness may be rather deeper though *still transient; or a fall with slight spasm*; or, finally, a severe general convulsion. Every one of these phases could be duplicated among the numerous manifestations of minor and major epilepsy. And when we compare the gradually increasing severity of the manifestations, according to the length of the period of cardiac asys[illegible] of epilepsy, the resemblance is mo[illegible] cussing the types and degrees of [illegible] remarks that "the primary types of epileptic attacks denote consecutive stages of the same series of phenomena—stages which may be arrested at any period." Among various examples given by Turner is the following: "A common form of incomplete attack is seen in fits, the aura of which is a feeling of giddiness followed by a sudden fall from loss of consciousness, but without convulsion. In these cases there are commonly found attacks of giddiness (aura), as well as complete seizures, in which the fall is followed by the usual convulsive phenomena of a major fit." In other words, the stages of severity observed are, firstly, an attack of giddiness only; secondly, an attack of giddiness followed by a fall from loss of consciousness; and, finally, the complete fit, terminating in convulsions.

A case of my own, a girl, aged 12 years, was subject to both major and minor attacks, the latter being described as attacks of giddiness. On one occasion I was feeling her pulse, she was not nervous at the [illegible] perhaps from 15 to 20, and then rapidly increased in force so that within about half a minute from its reappearance it had regained its previous state. A few minutes later its rate was 124, a rate very common in this particular case. The above attack was a typical example of many of her minor seizures.

Here was a case of cardiac inhibition in what would be called *petit mal*. The cessation of pulse and the child's cry were, I think, simultaneous. Had the cardiac arrest been of longer duration a fully developed major attack would doubtless have occurred. Again, in Finny's case of bradycardia recorded in the first lecture the attacks varied from what were called "weak turns" to "slight fits" and "severe fits." The case was at first regarded as one of *petit mal*. *It is very interesting to note* that the slight fits came on with soreness or sharp feeling in the stomach and left side of the thorax, which would then extend up to the right side of the chest into the head and eyes—a definite aura, in fact. Pallor of the face occurred, the eyes would turn up to the right side, and the hands would fidget and the fingers clutch at the sheets. The patient always came out of the fit in a frightened and slightly dazed manner, and the eyes had a strained and somewhat blind look for some minutes. Here we have an aura, and if it had occurred in a case of idiopathic epilepsy it would have been regarded as typical, but it occurred in a patient whose attacks were unquestionably secondary to cerebral anæmia from heart block. Whether the aura was due to sensations derived from the peripheral vessels and heart or to cerebral changes resulting from the cessation of the circulation it is difficult to say, but there can be no doubt that it was of circulatory origin. Finally, in the severe fit in the same patient the onset was more sudden, there were convulsive movements of limbs, and the patient came out of it very confused and was dull and nervous the whole day following. Such resemblances are too close to be due to mere coincidence. It is difficult to conceive of any other explanation than an identity of cause. The cause was unquestionably sudden failure of the cerebral circulation in the case described and the conclusion seems inevitable that the fit of idiopathic epilepsy is determined in a similar way. But it cannot be claimed that cardiac inhibition occurs in all cases of minor epilepsy. Moxon quotes Hughlings Jackson's observations of the disappearance of the pulse at the onset of attacks of *petit mal*. I myself was on two occasions feeling the pulse of a boy subject to minor attacks when one supervened. No arrest occurred, nor was there any obvious change in the pulse-rate. A transient spasm of the cerebral arteries may underlie these attacks. The boy was unaware of his attacks, whereas the girl recognised them and dreaded them very much, but they are clearly cases of very different type.

INFANTILE CONVULSIONS.

The similarity between infantile convulsions and those of idiopathic epilepsy is so close that the probability of the same factor underlying the two conditions must be very considerable. The vaso-motor system of the child is much more unstable than that of the adult and the ease with which emotional disturbance and shock are produced is notorious. In a considerable number of cases the occurrence of apparently ordinary infantile convulsions is the starting point of chronic epilepsy. It seems hardly open to doubt but that the large numbers of alleged causes of infantile convulsions, such as teething, rickets, worms, acute infections, gastro-intestinal disturbance, fright, and so on, must exert their influence *viâ* some common factor. Such a factor might be, as suggested, abnormal vaso-motor and cardio-motor systems with a ready liability to attacks of acute circulatory failure, either from cardiac inhibition or from splanchnic dilatation. If this factor is brought into play once only, we have an isolated convulsion; if only a few times, we have a few convulsions. If, however, it is brought into action over and over again chronic epilepsy is the result.

The convulsions met with at the onset of acute infections in childhood are worthy of mention. Under similar conditions rigors are common in the adult, so much so that it is almost an aphorism that under such conditions a convulsion in a child is the equivalent of a rigor in an adult. I have, however, once seen a convulsion at the onset of pneumonia in a non-epileptic adult. A rigor is associated with marked cutaneous vaso-constriction with pallor and sensation of great cold. The sensitive cardiac and vaso-motor systems of the child may not be able to adjust themselves to a severe vascular crisis, and it is to be noted that the old-established

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[illegible], p 307.

method of cutting short convulsions in infancy by means of immersion in a warm bath by producing vaso-dilatation of the skin lowers the blood pressure.

JACKSONIAN CONVULSIONS.

Local stimulation of the cerebral cortex by the electric current, or by the presence of a cortical tumour, are both competent to produce that type of convulsive seizure commonly known as Jacksonian. The muscles first involved in the convulsive movements are those related to the area stimulated, but the spasms rapidly spread to other groups, and finally the whole musculature of the body may be involved. Several possible explanations of this march of events must be considered.

1. It might be due to a spread of the current, but if so one would expect that the spread should occur at the moment of application of the current, and, moreover, the fact that areas very remote from the one primarily stimulated are involved—for instance, the opposite side of the brain—renders such an explanation very improbable.

2. To a spread of the excitation, the view commonly held. That the area of musculature involved in the convulsive movements gradually widens is proof that the excitation spreads, but it affords no explanation as to *how* it spreads.

3. It might be due to a spreading vaso-constriction of the cerebral blood-vessels, the resulting anæmia bringing about the spread of the convulsions. I have referred above to evidence suggesting that the cerebral vaso-motor mechanism is a much more active one than is generally assumed, and I would draw attention again to Harvey Cushing's observation that faradic stimulation of the cortex can produce a paling of the grey matter.

The phenomena of Jacksonian fits dependent on tumour might be susceptible of the same explanation—viz., a spreading vaso-constriction; but it is certainly difficult to correlate this group of fits and those due to absinthe with cerebral anæmia, and the possibility that they depend on a different mechanism must be admitted.

THE SYMPTOMS FOLLOWING UPON SUDDEN AND PROLONGED CEREBRAL ANÆMIA.

So far we have considered the results following sudden and very transient cerebral anæmia. The symptoms resulting from a more prolonged arrest of the cerebral circulation are not less interesting. In the paper already referred to on death occurring during or after exploratory puncture of lung, in addition to one case of sudden death I recorded two cases in which death occurred three and five days respectively after the puncture of chest. I will briefly note the salient features of one of these two cases:—

Old pulmonary tuberculosis; chronic left basal pneumonia; exploratory puncture; syncope, convulsions, left hemiplegia; death three days later.—The patient was a male, aged 52 years, under the care of Dr. T. D. Acland at Brompton Hospital; he was admitted on June 14th and died on June 17th, 1890. On examination the physical signs were suggestive of a localised collection of fluid at the left base. A puncture was therefore made just under the angle of the scapula between the eighth and ninth ribs. The patient almost immediately passed a large quantity of urine, turned pale, and fell backwards. Respiration ceased entirely at once; the heart beat most irregularly and radial pulse was not to be felt. Ether was inje the interrupted current was applied, and ar maintained for half an hour. He then had a fit in which the left arm became firmly flexed at the elbow, the thumb flexed into the palm, the fingers over the thumb, and the hand flexed at the wrist. The left leg was not affected. The eyes were deviated to the right and the pupils widely dilated. When examined a few hours later he was still unconscious; the eyes moved only to the right, and the pupils reacted very sluggishly, if at all, to light. The conjunctival reflex was present; the fundi were normal. The left arm at times moved slightly and then would become rigid and flexed; the left leg was rigid, the knee-jerk was exaggerated, and ankle-clonus was obtained with difficulty. There was also slight left-sided anæsthesia. On the morning of June 15th there was obvious left hemiplegia, with much twitching of the muscles of the left side of the thorax and abdomen. In the evening the right arm was rigid and fixed, the right leg was extended and constantly twitching; ankle-clonus was obtained on both sides—more briskly on the right. On the morning of the 16th he was still unconscious; the left hemiplegia and anæsthesia still persisted; the right arm was rigid with clonic spasms; ankle-clonus was absent and the knee-jerk could not be elicited on either side. Several convulsive seizures occurred during the evening; the arms were rigidly flexed across the chest, with twitching movements in both; there was much grinding of the teeth and clenching of the jaws; the head and eyes were moved from side to side. The left leg was somewhat rigid and there was much twitching of the foot; both knee-jerk and ankle clonus were obtained. The right leg was very *rigid with twitching of the foot; the knee-jerk was brisk.* The left optic disc was apparently swollen and blurred, with one flame-coloured patch; the right cornea was hazy, and the disc looked blurred. The temperature rose to 101° F. before death, at 11 A.M. on June 17th.

Post-mortem examination.—The left lower lobe was in a condition of chronic pneumonia with localised pleural adhesion. The upper lobe and the right lung showed fibroid and calcareous changes.

Brain.—The pia mater generally was slightly opaque. The dura al was slightly thickened, but there were no morbid adhesions. Th vessels at the base of the brain were healthy. The brain tissue w fairly firm, and no obvious lesion could be detected in any part.

In a case recorded by Hubert Armstrong[15] the initi symptoms, though almost equally severe, were recovere from. Several fatal cases presenting similar features are o record in which the symptoms followed pleural lavage. Th causation of the cardiac arrest in these cases is of grea interest. In some experiments[16] performed in conjunctio with Professor Brodie at the laboratories of the Roy Colleges of Physicians and Surgeons, with the object c ascertaining which of the afferent fibres of the vag cause inhibition of the heart when their central ends ar excited, we found that the pulmonary fibres were by f the most effective in this respect. If the root of the lun be exposed in an animal and any of the pulmonary branche stimulated a typical arrest of the ventricular contraction, a shown by the blood pressure record, is produced. At th same time marked arrest of respiration occurs from excita tion of the respiratory centre. The vaso-motor centre is al inhibited and produces a further fall in blood pressure, apa from that due to the cardiac inhibition, as proved by the fa in blood pressure produced in an animal whose cardio-inhib tory fibres have been paralysed by atropine. The subject ha also been studied by Capps and Lewis[17] who concluded fro experiments on animals with artificially induced pleurisy an from observations on the blood pressure of man durin aspiration of pleural effusions that the pleural fibres of th vagus can give rise to a very active lowering of bloo pressure, and that this may be brought about either from reflex vaso-motor effect or a reflex cardiac inhibition.

SIMILAR SYMPTOMS RESULTING FROM PROLONGED CHLOROFORM SYNCOPE.

The conclusion that the cerebral manifestations in th above cases are due to prolonged cerebral anæmia supported by the facts published by T. A. Green in his pap on Heart Massage as a Means of Restoration in Cases c Apparent Sudden Death.[18] Numerous cases of recovery aft chloroform syncope as the result of massage of the heart a on record, but in some, although the heart has been induced t beat apparently normally, death has resulted after a varyin period with a train of symptoms practically indistinguishab from those noted in the above cases. The fact that in thes cases of chloroform syncope the heart had ceased to beat fo varying periods and that therefore the cerebral circulatio was for a time at a complete standstill leaves no room fo doubt but that the cerebral symptoms are to be attributed t the cessation of the blood flow through the cerebral arteries Green's first case is as follows:—

A boy, aged nine years, was being operated on for congenit umbilical fistula. During the early stage of the operation respiratio stopped, "the lips became cyanosed, the skin pale, and the pupils of th eyes widely dilated and insensitive. No pulse could be felt at th wrist and on auscultation no heart sounds could be heard. The respira tion continued s minutes later." 25 minutes after under the left costal arch and commenced cardiac massage through th diaphragm. The apex of the heart was felt to be quite immobile and flaccid. Rhythmical compression of the heart was practised at a rate of about 70 per minute. After about two minutes a slight fluttering of the heart was observed and at the same time the pupils contracted slightly. Within a few seconds it began to beat with more than normal vigour at a rate of about 90 or 100 per minute. Artificial respiration had been continued the restoration of the pulse nsciousness never returned; trunk developed; he broke out into severe perspirations and the pulse and respirations increased in frequency. The muscular spasms were severe enough to necessitate the administration of morphine and chloroform. Death occurred 24 hours after the heart beat and respiration had been re-established.

Green also records a second but less striking case occurring under his own observation, but death occurred one and a half hours after the heart massage had been commenced. Green reviews the literature and gives a synopsis of 40 cases of heart massage for chloroform syncope, in several of which death occurred some hours after the heart failure with symptoms similar to those observed in his cases.

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[15] *Liverpool Medico-Chirurgical Journal*, July, 1906, p. 110.

[16] Journal of Physiology, 1900, vol. xxvi., p. 92, On Reflex Cardiac Inhibition.

[17] J. A. Capps and D. D. Lewis: Observations upon Certain Blood Pressure Lowering Reflexes that Arise from Irritation of the Inflamed Pleura, American Journal of the Medical Sciences, 1907, vol. cxxxiv., p. 890.

[18] THE LANCET, Dec. 22nd, 1906, p. 1708.

ON THE ETIOLOGY OF ACNE VULGARIS AND ITS TREATMENT BY VACCINES.

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AN accurate conception of the etiological factors in the various bacterial diseases has of late years become increasingly important in view of the specific treatment of such diseases by means of vaccines. I here propose to set forth some investigations I have carried out on the bacteriology of acne vulgaris, which seem to show that this condition is not simply one of staphylococcic infection, but is largely due to a specific bacillary infection.

In 1893 Unna[1] first described a bacillus which he found in the lesions of acne vulgaris and to which he gave the name "acne, bacillus." He did not isolate the bacillus in culture but found it constantly in sections and smears of comedones and pustules, and he concluded on histological grounds that the bacillus described by him was the probable cause not only of the comedo but also of the pustule. His three chief reasons for this belief were (1) that the bacillus was the only organism constantly present; (2) that in the comedo the bacilli were situated especially in the deeper part, whereas the other organisms present—e.g., staphylococci or bottle bacilli—were found near the surface; and (3) that the histological characters of the pustules were not such as were associated with other staphlylococcic infections.

Sabouraud,[2] in 1897, described the bacillus as occurring in sebaceous plugs which can be squeezed out of seborrhœic skins. He claimed that it was the cause of oily seborrhœa and also of alopecia areata, which he considered a localised seborrhœic condition. He was the first to describe accurately the cultural properties of the microbe, which he named the "bacille de séborrhée grasse." He considered that the indurated nodules and the pustulation of acne were due to a superimposed secondary infection with staphylococci.

Gilchrist,[3] in 1899 and later in 1903, states that a bacillus which is apparently identical with that described by Unna and Sabouraud is the cause of all the lesions of acne. He recounts that he found the bacillus in all the smears of acne pustules, and in about 30 per cent. of cases he obtained pure cultures from these pustular lesions. He rechristened the organism the "bacillus acnes."

Whitfield,[4] in his book on skin diseases, concludes as the result of his investigations that the acne bacillus is the cause of the comedo, but that the pustule is the result of a secondary staphylococcic infection.

The acne bacillus, as seen in smears of comedones and pustules, is a small Gram-staining bacillus varying in length from under 1μ to 3μ or 4μ and about ½μ wide. The younger forms stain evenly and darkly, but commonly the older forms show one or more deeply stained dots in their interior. These dots may be situated at the poles or they may be present along the whole length, resembling a chain of small cocci. The tenacity with which these bacilli retain Gram's stain is not nearly so marked as in the cas[illegible] quite easy to so stain a film [illegible] while the cocci are deeply [illegible] of the bacilli in pus is very irregular, single bacilli are present, pairs are common, especially arranged as a V, and large irregular groups are almost invariably to be seen; the microscopical characters of the bacillus in pus films and also in smears from cultures are very similar to some of the diphtheroid bacilli one meets with in superficial ulcers and elsewhere, and it is very probable that it is to this group that the bacillus belongs. The bacilli are often found inside the pus cells, and the same film may show phagocytosis of both bacilli and cocci, indeed one may see both taken up by the same cell. In the comedo the bacilli are in general shorter and stouter, and stain evenly, while in the pustule longer forms are seen with very irregular staining.

Smears from acne pustules practically always show the presence of the specific bacillus. Often no other organism is to be found, but in many cases staphylococci are evident in greater or less numbers. Other organisms may be seen, but they are not common and cannot have much influence on the etiology of the lesion. Gilchrist found the bacilli in every one of his smears, and in only very few have I been unable to find them with the greatest ease. In six cases, however, I was unable to find any organism at all, but from two of these I was able to obtain pure cultures of the bacillus. I found only acne bacilli in 44 per cent. of the pus films I examined, acne bacilli with staphylococcus in 53 per cent., in six cases no organisms were observed, while in one case,[5] only bottle bacilli were evident. The films were stained in all cases by Gram's method, which is much the best for the demonstration of the organisms. The bacilli in most cases were very numerous and the cocci when present were usually relatively few in numbers, but in some cases (roughly about a third of those cases where both organisms were present) the cocci were very numerous and far outnumbered the bacilli.

Unfortunately the very slight power of growth of the acne bacillus on artificial media makes it very difficult to get from cultural methods a true estimate of the frequency of its occurrence. Unna, when he described the organism, had not obtained cultures, and Sabouraud cultivated it from comedones and seborrhœic lesions. Gilchrist, however, claims to have cultivated it from acne pustules in 96 cases out of 145, 44 times mixed with staphylococcus and 52 times pure. My success in obtaining pure cultures has not been so great as was Gilchrist's, for out of 132 cultures from acne pustules I could only get pure growths of the bacillus on 13 occasions. Of the other cultures 35 were sterile, 40 grew both acne bacillus and staphylococcus, and 44 grew only staphylococcus. The large number of sterile cultures is due, I believe, to the fact that the bacillus only grew with the greatest difficulty on some of the media used. In some of the cultures, although staphylococci grew yet so few colonies developed that it suggested an accidental contamination, especially as it was impracticable to efficiently sterilise the skin in some cases. The sterilisation of the skin was effected by wiping it over with pure lysol and washing this off quickly with spirit. The pustule was then pricked and the contents squeezed out and a loopful transferred to an acid agar slope and planted out *en masse*. If the pus be spread thinly over the surface of the medium no growth of the bacillus will be obtained. The same applies to subculturing the bacillus and many tubes where it is only moderately thickly planted fail to grow.

In the large deep-seated pustules two elements are to be observed in the pus. Where the contents are squeezed out, first appears an opaque semi-fluid mass, consisting chiefly of pus cells. If this is wiped away and further pressure is made a gelatinous mass is extruded consisting largely of epithelial cells and representing probably a broken-down comedo. In making my cultures I have preferred to use the purulent material for two reasons: firstly, because in investigating the causation of the pustules it seemed hardly fair to use for cultural purposes what I considered to be a degenerated comedo, and secondly, in those cases where I examined films of both constituents of the pustule I found that where staphylococci were present in the pus they were present also in the gelatinous substance. A large number of my cultures were taken also from the small superficial pustules, and these were the more productive in pure cultures of the bacillus.

The subordinate rôle played by staphylococci in some cases of acne was well illustrated in one patient who suffered from comedones and pustules on the back and shoulders. Films of these pustules I have examined over 50 times and only on a few occasions could I find any cocci present, while of eight cultures on acid agar five yielded pure cultures of the acne bacillus, two were sterile, and staphylococcus grew in only one. Of eight cultures made on ordinary agar six were sterile and on the other two a few colonies only of staphylococcus developed.

In cases where a pure culture of the bacillus was obtained no change was observed in the culture tube for about three days but an increase in the transparency of the mass of pus. Then three or four small white spots appear, representing colonies of the bacillus, and these increase slowly in size till at the end of a fortnight they may have the diameter of 1 millimetre. The fact that only three or four colonies appeal from a large loopful of pus indicates the feeble character of the growth, as films of these cases have shown that a very large number of bacilli must have been present.

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[1] Histopathology of the Skin.

[2] Annales de l'Institut Pasteur, 1897; Séborrhée, Acne, Calvitie, Paris, 1902.

[3] Johns Hopkins Hospital Reports, vol. ix.; Journal of Cutaneous Diseases, 1903

[4] Skin Diseases and their Treatment, 1907.

[5] A man, aged 48 years, who had had comedones and pustules on the back for only about two years.

It has been suggested that the reason of frequent failure to cultivate staphylococcus from an acne pustule is that in acne, as in some other coccal infections, the cocci are limited to the walls of the abscess, but this does not, I think, apply to acne, as sections reveal that in this condition the cocci are more or less scattered throughout the pus, so that when one takes a large quantity of pus it is hardly conceivable that they should be missed.

In culture the bacillus presents exactly the same appearance to that already described as being observed in pus films. Involution forms are not prominent and it retains its staining properties in a culture three months old. Definite branching forms occur, especially in broth cultures. It does not form spores. It grows best at 37° C. and growth ceases at room temperature. Sabouraud gives the thermal death point as 75° C., and he has taken advantage of this to separate it from other organisms. Only once have I been able to separate it from staphylococcus by heating to 60° for half an hour. On the other occasions I have tried this method I was unable to obtain any growth after heating. Other methods of separation have been recommended, such as soaking comedones in absolute alcohol when the cocci only are said to be killed or *leaving the culture for three months when the cocci are said* to have died out, but with these I have had no success. The cultural characteristics are as follows:—

Broth.—This becomes cloudy in two days, and on the sides and bottom of the tube a heavy flocculent deposit is produced. When growth ceases in about a fortnight the fluid is quite clear with a heavy deposit at the bottom. The broth is not rendered acid by the growth.

Acid agar (ordinary agar rendered faintly acid with HCl).—On the third day a small rounded colony appears, increasing slowly in size for a fortnight, when it may measure up to one millimetre. The colony remains white and much resembles that of staphylococcus albus.

Acid glycerine agar.—The growth is similar to that on acid agar but not quite so rapid. When old it becomes heaped up and darkens in colour till it is almost black.[6]

Sabouraud's special medium.—I have found the rate of [illegible]owth on this much slower than on either of the two pre[illegible]ing solid media, but the type of growth is the same. [illegible]ordinary agar no growth occurs.[7] No growth was [illegible]ined in broth containing 1 per cent. of the various [illegible]gars.

Oleic acid glycerin agar.—This medium was suggested to me by the constant association of the bacillus with the fatty secretion of the sebaceous glands. Agar is neutralised with hydrochloric acid, 2 per cent. glycerine and 0·1 per cent. oleic acid is added, and the medium is then tubed off and sterilised in the autoclave in the usual way. Subcultures on this medium showed an appreciable growth in 24 hours, and in two days the surface was covered with a mass of white opaque colonies resembling very much those of staphylococcus albus both in size and appearance. This is by far the most suitable medium I have tried for the bacillus.

We have now to examine the serum reactions of infected persons to the acne bacillus. Gilchrist found that the serum of his patients agglutinated the bacillus in a hundred-fold dilution while his controls of healthy serum only agglutinated in a fifty-fold dilution. These results I have been unable to reproduce in their entirety. The sera were tested with five strains of the bacillus and three of the sera were derived from the same individuals from whom three strains of bacillus had been isolated. Of these three one showed no agglutinating power, one agglutinated the homologous strain in an 18-fold dilution, and the other agglutinated its own bacillus in a 54-fold dilution, and at the same time showed agglutination with one of the other strains to a less degree (six-fold dilution). Two patients who were being inoculated with a certain strain of bacillus and improving rapidly agglutinated this strain in a 32-fold dilution. The normal sera showed *no agglutinating* power in a *four-fold dilution.*

As regards the opsonic power I have tested 26 patients and have found that the opsonic index varies considerably, much more than does that of serum from healthy people. The indices obtained varied about the normal in the following manner:—

From 0·60 to 0 80 = 5
,, 0·81 ,, 1·00 = 6
,, 1·01 ,, 1·20 = 4
From 1·21 to 1·40 = 5
,, 1·40 ,, 1·60 = 6

Thus it will be seen that there is a tendency to an increase in the production of opsonin in infected persons—a condition frequently met with in other infections—e.g., gonococcus, bacillus coli, &c.

The *opsonic indices of seven apparently healthy people* were done in all 42 times, and these may be tabulated as follows:—

Under 0·80 = 1
0·81 to 0·90 = 6
0 91 ,, 1·00 = 13
1·01 to 1·10 = 15
1·11 ,, 1·20 = 6
Over 1·20 = 1

As regards the *pathogenicity of* the bacillus to the lower animals Gilchrist found that it killed mice and guinea-pigs in one or two weeks and from the pus at the seat of inoculation and from the heart's blood he obtained pure cultures of the bacillus. My observations in this connexion are limited to the inoculation of week-old broth cultures of two strains of bacillus into two-guinea pigs, neither of which suffered any *inconvenience.*

The next question to be examined was the possibility or otherwise of reproducing the disease by inoculation of the bacillus directly into the skin of a susceptible individual. Last November I rubbed *vigorously into the skin* of the forearm of a person suffering from acne a week-old broth culture of an acne bacillus freshly isolated from him. At the same time the same culture was vigorously rubbed into the arm of one of my colleagues who has never suffered from acne. In the latter case only a negative result was obtained but in the case of the susceptible individual after two days several of the hair follicles of the area rubbed over became inflamed and in five days definite pustules formed which persisted a week, then began to dry up, *although the lesions* did not disappear for over a month. On the fifth day and again on the twelfth day films of these pustules were examined and no organisms other than the acne bacillus could be discovered. This, then, would seem to show that this bacillus is capable of producing a pustular folliculitis in a susceptible person.

Of the other organisms present in acne I need only mention two—viz., the *staphylococcus and the bottle bacillus. The* former is present in many comedones as well as in pustules and sometimes in considerable numbers; indeed, Sabouraud in his earlier researches had great difficulty in obtaining culture from these comedones of the acne bacillus free from staphylococci. Staphylococcus aureus seems to be uncommon in these lesions. I have only grown it on two occasions, once from a large pustule—almost a furuncle—following an excessive dose of staphylococcus vaccine, and again in what seemed an ordinary slight case of pustular acne. All my other staphylococcic cultures were of the white variety and only very few of those tested liquefied gelatin. Of the others there were two main types—one very opaque and white, while the other was greyish semi-transparent, having a very flat colony with irregular margin which spreads to a considerable size over the agar.

The bottle bacillus is a large organism shaped something like a bottle and presenting an appearance very like a yeast. I have not succeeded in obtaining cultures. It occurs in the more superficial part of the comedo and is to be found constantly also *in dry seborrhœic conditions of the scalp* or elsewhere where its presence may be of great diagnostic value.

Before going on to the question of the treatment of acne I would like to direct attention to the evidence that the acne bacillus may be and frequently is the cause of pustulation. As stated above, Unna and Gilchrist thought that the pustulation was of bacillary origin, while Sabouraud, and more recently Whitfield, believed it to be a secondary coccal infection. The last observer gives as his reasons for holding to the coccal origin of the pustules (1) *that staphylococci* can always be cultivated from the pus; (2) that films of pus often show cocci ingested by leucocytes, thus proving that they are not merely a surface contamination; and (3) that patients with pustular acne have a low opsonic index to staphylococcus. As regards the first reason the cultural evidence detailed in an earlier part of the paper would seem *to indicate that there is a fairly large percentage of cases* where one obtains either no growth at all from the pustules or a growth of the acne bacillus. This bacillus one can practically always see in films of pus and it is probably only because of its very feeble powers of reproduction on artificial media that one does not obtain a culture every time. With regard to the ingestion of the cocci by leucocytes if this be a proof that they are exerting a pathogenic action, then much more does this apply to the acne bacillus, for in pus films one finds bacilli inside the pus cells with much greater frequency than one does cocci. Sometimes, as I indicated above, one finds both phagocyted in the same film or even both inside the same pus corpuscle. The third reason adduced—that of the low opsonic index—applies, I think, only to those individuals in whom there is a staphylococcic as well as a bacillary infection. I have shown, however, that these patients also exhibit abnormal opsonic indices to the acne bacillus.

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[6] This darkening on glycerine media may be due to the formation of the same substances which cause the blackening of the free end of the comedo

[7] Since writing the above I have su[illegible] from the contents of a superficial culture plante[illegible] 14 days' incubation four small colonies of [illegible]earances similar in all respects to the acne bacillus.

Having now treated in a more or less complete manner of these objections I would adduce the following contentions in favour of the pyogenic nature of the bacillus. 1. It is constantly present in the pus as shown by examination of films. 2. It is frequently the only organism present in pus. 3. It can frequently be recovered from the pus in pure culture. 4. Inoculated into the skin of a susceptible individual it produced a pustular folliculitis and examination of the pus showed no other organism to be present. 5. Inoculated into animals it produces an abscess at the seat of inoculation from which the bacillus has been recovered in pure culture. (Gilchrist.) 6. The serum of patients affected with acne agglutinates the bacillus in some cases. 7. The opsonic indices of patients to the acne bacillus vary considerably from normal. 8 Large doses of a vaccine derived from the acne bacillus have, as we shall see later in connexion with the treatment, induced a marked negative phase characterised by the appearance of fresh pustules from which the bacillus has been recovered in pure culture. 9. A vaccine of this organism has a marked beneficial effect on the condition. 10. When a patient has a high opsonic index to the bacillus his condition improves, but when the opsonic index is low fresh pustules appear.

We now come to the question of the treatment of acne vulgaris by means of bacterial vaccines. I think we may take it is definitely proved now that in a localised infection, when one inoculates the patient with appropriate doses of a carefully prepared vaccine derived from the infecting organism, one obtains a definite beneficial effect. This has been shown by very many observers since Sir Almroth Wright first directed attention to the curative properties of these vaccines, and taking this broad principle as the basis for our work we would expect, from what I have advanced as to the bacteriology of acne, that a vaccine of only one organism, whether it be staphylococcus or acne bacillus, would not be sufficient in all cases. The treatment of acne by means of staphylococcus vaccine has been repeatedly discussed by Sir Almroth Wright[3] and others, and I here propose to deal mainly with the treatment by means of a vaccine of the acne bacillus alone or in combination with staphylococcus.

Very frequently in treating a case of acne with staphylococcus vaccine it is found that there is a definite improvement for a time then the condition remains stationary in spite of any modification in the dose or character of the staphylococcic vaccine. This is exactly what would be expected from a consideration of the bacteriology, as it is only in a certain number of cases that the staphylococcus is present, and even when present it is not responsible for the *whole condition. We can*, therefore, *divide* cases of acne vulgaris for therapeutical purposes into three classes. The first will consist of those cases in which the comedo is the dominant feature, with, also, some of those which have progressed further to the indurated and pustular stages. In this class of case the acne bacillus is the offending agent and the staphylococcus if present at all is playing a subordinate rôle. This class, therefore, may be treated with a vaccine of acne bacillus alone. The second class consists of a large number of the indurated and pustular varieties where both staphylococcus and the acne bacillus appear to be playing an active part in the causation of the inflammatory process. The therapeutic requirements of this class are best met with a mixed vaccine of staphylococcus and acne bacillus. The third class consist of those less common cases where there is a more acute inflammation, tending almost towards a furuncular form. Here microscopical examination will show that the staphylococcus is the chief offender and treatment should be directed at first against this factor, not forgetting, however, that at the basis of the condition there is an acne bacillus infection.

I would here lay stress on the importance of the microscopical examination of smears of the pustules before vaccine treatment is embarked on in order that some certainty may be arrived at as to which class the patient belongs.

The vaccine used was derived from a three weeks' old culture on acid agar and was made and standardised in the usual way. In two cases opsonic estimations were made almost daily over a period of six weeks, and the charts show that the index varied exactly as it does with inoculations of other organisms. One of these charts relating to a case of mild pustular acne is here reproduced. A dose of 10,000,000 acne bacilli caused a marked negative phase followed by a rise and a subsequent drop. Smaller doses of 6,000,000 showed no negative phase. The clinical condition showed a very marked correlation with the index—i.e., when there was a low index fresh spots appeared and when the index rose the condition improved. This very close correlation rendered the continuance of the opsonic estimations unnecessary for guidance in treatment, the clinical condition affording a good and much more easily observed guide. I may mention here that this patient, who exhibited a marked negative phase with 10,000,000 bacilli, had previously had administered a dose of 50,000,000 which was followed by a very luxuriant crop of pustules, and from these pustules pure cultures of the acne bacillus were obtained.

The stock vaccine in use in this laboratory was derived *from a pustule* on the face of a woman, aged about 25 years, who had had very bad pustular acne on the face and shoulders for many years. She had been having staphylococcic inoculations at intervals of ten days for about a year.

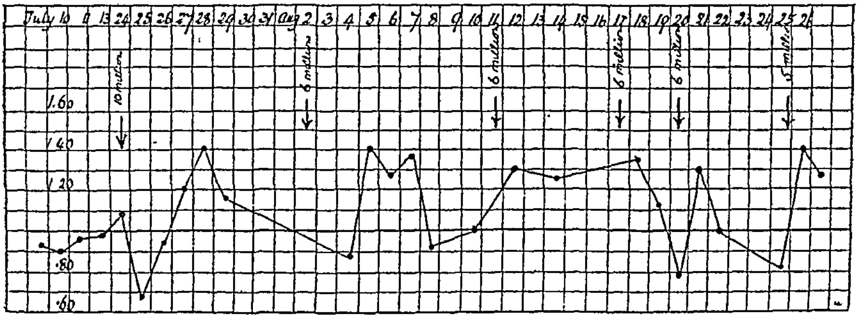

Chart showing the effect on the opsonic index to the acne bacillus produced by inoculations with a vaccine of that organism.

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[3] THE LANCET, March 29th, 1902, p. 874; Brit. Med. Jour., 1904.

The condition had improved somewhat at first but for several months had been almost stationary. She then had the same stock staphylococcus vaccine, combined with 20,000,000 of her own acne bacillus vaccine. This was followed by the appearance of fresh pustules and the aggravation of existing ones. Ten days afterwards another inoculation was given of staphylococcus, with this time only 10,000,000 acne bacillus, and inoculations were given regularly of the same doses of the same staphylococcic vaccine as she had previously been having, combined with doses of acne bacillus varying from 5,000,000 to 10,000,000 and in three months almost all traces of acne had disappeared. Later she discontinued treatment and a slight relapse occurred, but this has again improved with the mixed staphylococcic and acne bacillus vaccine.

Another case was that of a girl, about 26 years of age, who had had very bad pustular acne on the face for several years. The face was covered with deep indolent pustules; a film of pus showed no organisms; and of cultures from four pustules two were sterile and two showed a scanty growth of staphylococcus. From July till the end of September last year she had doses of mixed stock staphylococcus and acne bacillus vaccines in doses of 100,000,000 to 250,000,000 of the former and from 5,000,000 to 20,000,000 of the latter, with hardly any improvement. It is worthy of note that while a dose of 250,000,000 staphylococci + 10,000,000 acne bacilli produced hardly any negative phase, the next dose of 250,000,000 staphylococci + 20,000,000 bacilli was followed by a marked exacerbation of the pustulation, indicating the importance of the bacillus in the causation of these lesions. From the end of September till the beginning of January she had the same doses of staphylococcus with doses of from 5,000,000 to 10,000,000 of an acne bacillus obtained in pure culture from her own pustules, and from the very first her condition improved till on Jan. 7th of this year all suppuration had disappeared from the face with the exception of one very small superficial pustule.

Another case was that of a girl, aged 20 years, who had had very bad facial acne for five years. Films of pus showed many acne bacilli and in some pustules staphylococci were also to be seen. From Sept. 3rd, 1908, to Dec. 3rd she was treated with stock vaccines of staphylococcus (200,000,000) and acne bacillus (5,000,000 to 8,000,000) without showing any definite improvement. From Dec. 3rd to Jan. 22nd, 1909, she has been having the same doses of the same staphylococcus with 8,000,000 of an acne bacillus derived from her own lesions. The improvement was immediate and marked, and now there is practically no pustulation, merely some indurated nodules and many scars.

These cases illustrate the fact that not all the cases will show improvement when treated with a stock vaccine, and this is exactly in accordance with what one finds with other organisms, such as streptococcus or bacillus coli. They also furnish very strong evidence that the bacillus is largely responsible for the suppuration. The first case had been treated with staphylococcus for months, and it was only after acne bacillus vaccine was administered that a rapid improvement in the pustulation was observed. The first and second of these cases show that when an excessive dose is given them a definite negative phase is induced, although the dose of staphylococcus is unaltered. The second and third cases show that although the stock vaccine of staphylococcus combined with the stock vaccines of acne bacillus was of little avail, yet the same doses of the same stock vaccine of staphylococcus with an autogenous acne bacillus vaccine rapidly got rid of the suppuration.

While these cases illustrate the fact that in some cases an autogenous vaccine of acne bacillus is necessary, yet experience has shown that in the vast majority of cases great improvement has been induced by the inoculation of a stock vaccine combined with staphylococcus if an examination of films has revealed that that organism is present. The dose used has varied from 4,000,000 to 10,000,000 and the interval between inoculations from one to two weeks. The guide to treatment has been the appearance of fresh lesions either during the period of low resistance following the positive phase when too long an interval has been allowed to elapse or in the next two or three days after an inoculation indicating that too large a dose has been administered. By watching these signs and working the dose up till it just fails to show any "negative phase" clinically one obtains the maximum benefit from the vaccine. In this way a large number of cases of acne in all its stages have been greatly improved and in a fair proportion the lesions have totally disappeared. On cessation of treatment in several instances, especially in some cases where attendance ceased before the condition had entirely disappeared, there was a recrudescence of the disease, which, however, rapidly gave way to subsequent treatment.

It is interesting in view of Sabouraud's contention that this bacillus is the cause of seborrhœa and of alopecia areata to note the effect of treatment on a patient—a woman aged 25 years—who suffered from comedones on the face and a rapid loss of hair which had been persisting for some months in spite of ordinary treatment. In October last she was first inoculated with the acne bacillus and from the first week after this the loss of hair practically ceased. Since that time she has had inoculations every 7 or 14 days, and there has been no return of the loss of hair. One cannot argue from one case, but it is possible that if, as Sabouraud maintains, seborrhœa of the scalp is due to this bacillus and the loss of hair is due to seborrhœa, then inoculations with the bacillus may prove of benefit in checking this loss.

THE PHYSIOLOGICAL AND THERAPEUTICAL PROPERTIES OF THE SERUM OF MILK (LACTO-SERUM).[1]

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(*Specially Translated for* THE LANCET.)

WHEN the casein of milk is separated by coagulation the residue is a serous liquid commonly called whey. If the coagulation has been produced by means of an acid the whey contains a certain amount of albuminoid substances, but if rennet (*le ferment lab*), assisted in its action by a salt of calcium, has been used, only traces of such substances remain. The present investigation was commenced in the year 1902 and the first results were made known in a preliminary note read at the Medical Congress held in Madrid in 1903. In conducting it I took no account of the dietetic uses of whey—a subject on which many works have been published, and I administered the lacto-serum by the hypodermic method which had not been previously employed so far as I am aware.

My first observations were made in Dr. Maygrier's obstetric wards at the Charité, where I held an appointment, and in them lacto-serum sterilised in an autoclave was used. Sterilisation by heat, however, has the disadvantages that the product changes in colour if it contains a trace of alkali and becomes turbid if it contains a trace of acid, absolute neutrality being almost impossible of attainment in a solution of amphoteric reaction. For these reasons recourse was ultimately had to sterilisation without heat by filtration through a d'Arsonval bougie. The d'Arsonval bougie is a porcelain tube like the Chamberland bougie, but larger and thicker, in which the organic liquids to be filtered are forced through under pressure of carbonic acid gas. The pressure is considerable and causes a filtration of thick albuminoid liquids which will not traverse ordinary filters. The lacto-serum, whenever it is well prepared and a little patience is used, can be filtered through ordinary bougie filters. The lacto-serum used by me is derived from cow's milk; it is a clear fluid, almost tasteless, and practically isotonic; it contains the mineral salts of the milk, occasional traces of albumin varying with the method of preparation, and more especially the natural ferments of the milk which are destroyed by sterilisation with heat but remain in solution after filtration without heat as above described. This fluid possesses some very interesting properties. As regards its saline constituents it behaves like a solution in which chloride of sodium, milk sugar, and phosphates of the alkalies and alkaline earths predominate. As regards its ferments, it has a resemblance to extracts of animal organs and to animal serums; like them, it contains certain oxydases, the importance of which is only beginning to be known and which impart to all serums several properties in common. This last and very remarkable fact was suspected by Pasteur and has been confirmed by the successful employment in different diseases of a serum such as that of Dr. Roux, which has produced such good effects in diphtheria that it deserves to be called a specific.

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[1] Memoir communicated to the Paris Academy of Medicine on April 9th, 1909.

The ferments contained in milk have been the subject of many investigations. Some of them, such as pepsin, trypsin, lipase, the glycolytic ferment, the oxydases, and the anaëro-oxydases, are common to the milk of all the mammalia, while others, such as the amylolytic ferment and the ferment which attacks salol, are present in human milk but not in that of the cow. The importance of these ferments from the dietetic point of view has given rise to long discussions among those who advocate respectively either raw milk (*lait cru*) or sterilised milk for the feeding of new-born infants. The practical results observed in the use of sterilised milk deprived of its ferments seem to show that the latter are of only secondary importance when the milk is introduced into the digestive tract. The case, is however, quite different when the milk is converted into lacto-serum which is injected under the skin, the specific action of the ferments being now very pronounced. If the lacto-serum has been sterilised by heat there may be some increase in the amount of urine, but otherwise the effects are not very different from those of "artificial serum," whilst the injection of lacto-serum sterilised without heat is followed by some novel consequences. At first there is a slight rise of temperature coming on soon after the injection and lasting only a few hours. In the next place there is an increase in the polynuclear leucocytes, while there is often a remarkable increase in the excretion of uric acid, especially in febrile cases; finally, as a distinctive and peculiar phenomenon—for those just enumerated belong in common to almost all serums—there is a notable lowering (or what might more correctly be called a "regularisation") of the blood pressure in the arteries and capillaries. This phenomenon is novel and could not have been foreseen, because analysis of the lacto-serum does not reveal the presence of any substance capable of producing such an effect. Neither the very small amount of milk sugar contained in the 10 cubic centimetres which I gave as a dose, nor the trifling increase in the amount of urine which might be attributed to it, could be considered as the cause. There is, however, no doubt as to the fact, for a considerable number of observations both on the human subject and on the lower animals have enabled me to prove that when the blood pressure is increased, either from pathological conditions or artificially, injections of lacto-serum will cause the pressure to fall to normal more or less quickly and to remain at that level for a time. In cases of hypotension the blood pressure is not further reduced but has rather a slight tendency to rise. A case observed in the wards of Professor Robin, the patient being a female suffering from tuberculosis whose blood pressure measured by Verdin's apparatus fell to practically seven millimetres of mercury, is absolutely conclusive in this respect.

In some experiments made in the laboratory of Professor Richet in July, 1902, the arterial pressure in a dog was artificially raised by means of extract of suprarenal capsules, this being followed by an injection of cocaine for the purpose of prolonging the artificial rise of pressure which would otherwise be of short duration. I then found that the injection of lacto-serum brought down the pressure to the normal either quickly or at least in a much shorter time than would have been required for a spontaneous return to the normal without the administration of lacto-serum. Similar results were obtained in the human subject. In a patient whose radial artery showed a blood pressure reckoned in millimetres of mercury equivalent to 24, an injection of lacto-serum caused it to fall to 21, and sometimes to 20, in from three to four hours, the pressure rising again to 22 at the end of 24 hours. By means of a series of daily injections the pressure was brought down to the normal amount in six, eight, or ten days according to the nature of the cases, and a still more curious fact was that it remained normal for a month or more, whilst in one instance it remained normal for five months. Some cases resisted the treatment, but they were very few in number. It must also be remembered that the true cause of arterial hypertension is not as yet completely known, neither is it certain that the cause is always the same.

The therapeutical applications to which my inquiries led me have been as follows:—

1. *Puerperal infections.*—I made observations on four cases of this kind in the wards of which Dr. Maygrier has charge and on two cases in private practice. The results were variable, being sometimes successful and well marked, but at other times either uncertain or of short duration.

2. *Post-operative peritonitis.*—Three cases occurring in private practice were observed. The treatment was unsuccessful; there was an evident prolongation of the patients' resistance to the disease, but a fatal issue was not averted. In this condition the arterial tension is always low.

3. *Typhoid fever.*—Cases of this disease were observed in the wards under the charge of Professor Robin. In one there was a remarkable result, but of doubtful interpretation; in three cases there was no result.

4. *Pneumonia.*—Observations were made on 12 patients in the wards under the charge of Professor Robin and Dr. Maygrier. The results were in every way remarkable and constant. Defervescence always followed the second or even the first injection, sometimes on the fourth day of the treatment, the defervescence being as usual accompanied by an abundant excretion of uric acid. It must, however, be admitted that in pneumonia many kinds of serum give the same results as above described, and that the "metallic ferments" which came into prominence after my researches had been commenced produce even more remarkable effects. This merely proves the similarity of action of lacto-serum and of these ferments, a similarity on which Professor Robin has laid great stress in his important work on this subject.

5. *Arterial hypertension in arterio-sclerosis.*—It is in this condition that lacto-serum appears to me to find its most interesting application. My observations, 63 in number, were made upon patients in the wards under the charge of Professor Robin, M. Hachard, M. Oulmont, and M. Vaquez, as well as in private practice; ten have been described in communications received by me from brother practitioners. In one patient who was under the care of M. Vaquez and who received only a single injection the treatment was a complete failure. In almost all the others the fall of the blood pressure was constant and occurred under the conditions already detailed. Simultaneously with this fall of pressure there was a mitigation of the subjective symptoms such as headache, insomnia, general oppression, and shortness of breath on exertion. Every time that the treatment was applied according to the rules suggested by experience and continued for a sufficient period the results were surprising. There were at least 26 cases which I was able to keep under observation as private patients for a longer time than the hospital patients, because all the latter left the hospital as soon as they felt themselves better; these 26 cases showed a general improvement so well maintained as to amount to recovery, provided that from time to time the injections are repeated for several days as soon as signs of hypertension recur. Under these circumstances the patient is often free from symptoms for several months. All these patients resumed their ordinary course of life which had been interrupted by the illness, and some in opposition to my advice even discontinued the special *régime* which had been prescribed for them.

Several of the patients whom I treated had in their urine albumin, the amount of which was almost always slightly increased during the first days of the treatment. If there is [illegible] depends on hypertension [illegible] manently in patients who persevere with the treatment even though they discontinue the *régime* prescribed for them, but if there are renal lesions the albuminuria after the initial increase returns to its original amount. This supplies a convenient method of distinguishing between the albuminuria of hypertension and true organic albuminuria, serving in fact nearly the same purpose as the use of nitrites.

My ordinary method of administration is to give a daily injection of 10 cubic centimetres and to repeat it in 24 hours if the effect has not been sufficient until the blood pressure has fallen to normal. After this the injections are continued for four or five days longer, and then a weekly injection is given for a month, with more frequent repetitions if the pressure rises. When the pressure remains normal a monthly injection is given for three months. The injections are not repeated unless the symptoms of hypertension recur. The injection is made into the muscles of the thigh or of the gluteal region, or else under the skin of the flanks. Usually it is not painful; when pain is felt it shows that the serum has not been made isotonic in the process of preparation. Sometimes a little erythema is seen at the site of the puncture. No abscess has occurred in a total of more than 1000 injections.

The preparation of the lacto-serum is very simple. Milk as fresh as possible is warmed to 30° C. and rapidly coagulated by some drops of hydrochloric acid. The curd is removed by filtration through fine muslin and the liquid, after exact neutralisation with carbonate of sodium, is filtered through paper (*papier Chardin*); the final stage is filtration through a d'Arsonval bougie under pressure of carbonic acid gas. This filtration may be very tedious, for colloid substances liable to block the pores of the filter are sometimes present. This process introduces into the lacto-serum a little chloride of sodium which raises the natural low tonicity (*hypotonie naturelle*) of the liquid; it also introduces traces of peptone, appears to reduce somewhat the richness of the serum in oxydases, and leaves a small quantity of albuminoid substances which hinder filtration. Coagulation of the milk by means of some drops of rennet (*présure*), sterilised by filtration and with its action strengthened by a trace of chloride of calcium, produces a better curd, leaves no albuminous substances in the whey, does not form peptone, interferes less with the oxydases, and secures a more rapid filtration, but it requires the liquid to be made isotonic by the addition of a little chloride of sodium in order that the injection may not be painful. The lacto-serum is preserved in flasks (*ampoules*) hermetically sealed after being filled with carbonic acid gas. Under these conditions it may retain its activity for one month, two months, or even longer.

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THE TREATMENT OF GRAVES'S DISEASE WITH THE MILK OF THYROIDLESS GOATS.

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Fifteen months ago a communication on this subject was made to The Lancet,[1] and three cases were recorded. Of the first of these nothing more has been heard; the second case was again treated with the milk during the whole of last summer down to the end of September, and the patient's medical attendant reports:—

> I last saw her on Nov. 10th, 1908, when she expressed herself as feeling well and able to do much more than she had been able to do previously; her pulse was 78 and her weight was 10 stones 1 pound (at one time her weight went down to 7 stones 9 pounds and her pulse could scarcely be counted, it was so rapid).

In the third case the patient continued to take the milk until Dec. 30th, 1907, when the supply failed. After this she was not quite so well, the pulse-rate increasing and there being some return of the œdema in the legs. Another goat came in milk in March, 1908, and the patient took the milk all last summer. Although the large goitre remained the same, yet the patient had very few subjective symptoms and but slight acceleration of pulse. The exophthalmos remained stationary. The supply of milk failed at the end of September, 1908, and the patient went to the seaside. Here she had a bad attack of gastro-intestinal disturbance with persistent vomiting and diarrhœa; since then she has been mainly in bed and subject to occasional severe attacks of palpitation and choking sensations at night. During the past two months the patient has been treated with dried blood from a thyroidless goat, five grains three times a day, but without improvement. Although milk is again available it cannot be taken on account of the gastric symptoms.

The following seven cases were under treatment at the Prince of Wales's Hospital, Tottenham, and I am indebted to the physicians under whose care they were for permission to publish them.

Case 4.—The patient was 19 years of age and unmarried. Her illness had commenced four years ago after some domestic trouble. The symptoms then were pain in the cardiac region and fulness of the throat and these symptoms continued. On admission to hospital there was found to be an obvious enlargement of the thyroid gland and the pulse-rate was 104. There was slight prominence of the eyes, slight tremors in the hands, and occasional attacks of a sense of suffocation in the chest, the patient's weight being 6 stones 12¾ pounds. She was treated with milk from a thyroidless goat and strophanthus and she improved and was able to leave the hospital in 41 days, having gained 5¾ pounds in weight. The pulse-rate remained about the same.

Case 5.—The patient was a married woman, aged 36 years. The illness had commenced four months before attendance with marked prominence of the eyes, neuralgia in the forehead and the face, enlargement of the thyroid, difficulty in swallowing, palpitation, shortness of breath, and increased appetite. When first seen there were present pronounced exophthalmos, enlargement of the thyroid, and marked tremors. At first the patient was treated as an out-patient with rodagen and under this treatment the exophthalmos diminished. After a month she was admitted to the hospital and was treated with milk from a thyroidless goat, about a pint and a half a day. In six weeks she was much improved and was able to go to the seaside, where she gained 11 pounds in weight, but the exophthalmos remained the same. On her return she again took the milk and continued to improve till December, when the supply failed. Ten days later the patient was much worse; she was weaker and more tremulous, and was suffering also from shortness of breath and from attacks of cardiac pain; she had not had any of these attacks since the early days of her illness. She was readmitted to hospital and was treated with thyroidectin and she has much improved.

Case 6.—The patient was a married woman, aged 36 years, and the mother of six children. The illness had commenced four years ago during pregnancy. On admission to hospital there were found to be severe palpitation, œdema of the legs, nervousness, with tremors in the hands, and enlargement of the thyroid, but there was no exophthalmos. The patient was treated with milk from a thyroidless goat and she improved, but she left too soon, to look after her children.

Case 7.—The patient was 20 years of age and unmarried. She had a large soft goitre giving a sense of pulsation and a well-marked thrill. There was distinct exophthalmos, and the pulse was 120; slight tremors with occasional attacks of shortness of breath were present. The patient was treated with milk from a thyroidless goat and she quickly became much better, leaving the hospital in 39 days.

Case 8.—The patient, aged 20 years, unmarried, had had appendicitis six months ago, for which she was operated upon. Three months later there were symptoms of gastric ulcer with vomiting of blood and the present symptoms followed. On admission to hospital the patient was markedly pale and the pulse was 144; the thyroid gland was felt on examination to be enlarged and there was shortness of breath, but no exophthalmos was present. The treatment consisted of milk from a thyroidless goat and under it the patient improved greatly.

Case 9.—The patient was 17 years of age and unmarried. On admission there was distinct enlargement of the thyroid gland, with tremors of the hands and anæmia, but there was no exophthalmos. This was a mild case. The patient quickly improved under the milk treatment, only remaining in hospital 20 days. The pulse on admission was 104 and on leaving it was 80.

Case 10.—The patient was a married woman, aged 29 years, and the mother of four children. On admission to hospital there were present marked exophthalmos, nervousness, with constant movement of some part of the body, headache and giddiness, enlargement of the thyroid, and a systolic murmur at the apex. Treatment with milk from a thyroidless goat brought about an improvement, but the patient left too soon, in order to look after her children. 15 months later she attended the out-patient department for a time with all the symptoms of the disease well marked.

Case 11.—Treated in the country. The patient was a married woman, aged 32 years, who had suffered from the disease for four years. The symptoms were palpitation, a pulse-rate of 130, fulness of the throat, with pulsation of the thyroid gland, and slight exophthalmos. She was treated with the milk of a thyroidless goat and in three weeks' time was better.

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[1] The Lancet, Jan. 25th, 1908, p. 227.

Some of the milk was sent to St. Thomas's Hospital, where Dr. Hector W. G. Mackenzie kindly tried it on the following four cases.

CASE 12.—The patient was an unmarried woman, aged 21 years. The illness had commenced 17 months ago with swollen neck, tremors, and prominence of the eyes. On admission to hospital the patient was very thin and considerable exophthalmos was present. The thyroid gland was slightly enlarged; there were tremors in the hands, the pulse-rate was 160, and the patient's weight was 5 stones 8 pounds. She was ordered 35 ounces of the milk a day and she gradually gained in strength and in weight, the gain in the latter respect being 1 stone 2 pounds.

CASE 13.—The patient, aged 20 years, was unmarried. Two years previously to coming for treatment she had been an in-patient for eight months with marked exophthalmos, tremors of the hands, and a systolic murmur. She was treated with rodagen and x rays to the thyroid and she got much better and gained 2 stones in weight. She was kept under observation and was readmitted a year later. All the symptoms of Graves's disease were well marked. She was treated with the milk from thyroidless goats and improved, gaining several pounds in weight and the pulse-rate falling.

CASE 14.—The patient was 20 years of age and unmarried. On admission there was enlargement of the thyroid gland with a thrill and the pulse-rate was 120. There were tremors in the hands but no exophthalmos was present. She was treated with milk from a thyroidless goat, about a pint a day. She steadily improved, leaving in 34 days, and having gained 1 stone 3 pounds in weight, the hands being much less tremulous and the pulse-rate remaining about the same.

CASE 15.—The patient, an unmarried woman, aged 42 years, had suffered from Graves's disease for 14 years. Two years ago she had been an in-patient for ten months and had improved somewhat, but became worse again after returning home. She was readmitted and was treated with milk from thyroidless goats, but did not improve under the treatment.

It is satisfactory that none of the patients treated have so far died. It is not always so. On looking through the reports of one large hospital it is seen that there were in ten years five deaths, and at another hospital in the same time 11 deaths. Only two of the cases did not improve under the treatment (*Cases 3 and 15*), but the patient in Case 3 did improve while the milk could be given, and the condition in Case 15 was of long standing. It is, of course, possible that the improvement may have been due wholly, as no doubt it was in part, to the rest and good diet obtained in hospital, but the patient in Case 1 continued to lose ground under these conditions till the milk was given. Cases 2 and 11 were treated wholly at home, and in Cases 3 and 5 the patients became worse when the milk had to be stopped. Further, Dr. A. Gordon Gullan has reported good results from rodagen and thyroidectin.[2]

As the anti-body in the milk must be derived from the blood serum it would seem better to administer the dried serum and corpuscles from a thyroidless animal. But there is one point in favour of the milk: ordinary cow's milk must contain a certain amount of thyroid secretion, therefore we have either to give this or to cut ourselves off from an article of diet valuable for invalids: the use of milk from thyroidless animals relieves us from this dilemma. The reduction in the amount of thyroid secretion in the patient can also be brought about by the excision of part of the enlarged thyroid, and several surgeons have recently reported successful cases of this treatment. The operation has, however, been attended with a heavy mortality in the past; but in one case in which the patient was seriously ill with the usual symptoms, including paroxysmal attacks of palpitation and dyspnœa, I removed the major part of the goitre and the patient was speedily and greatly benefited.[3] If an operation is to be undertaken it should not be delayed until the patient is materially weakened by the disease. It is true that a certain number of cases recover under medical treatment, but what we have to avoid is not so much unnecessary operations as unnecessary deaths. Even if operation is the best treatment for the majority of cases we still require a medical treatment for the cases which are too mild for operation, for those patients who are too ill for operation, for those who decline operation, and for those cases which have been operated upon but which have not been completely cured.

Devonshire-place, W.

RADIOGRAPHY AS AN AID TO THE DIAGNOSIS OF DISEASES AND INJURIES OF THE SKULL AND BRAIN.

BY ROBERT KNOX, M.D. EDIN., M.R.C.S. ENG., L.R.C.P. LOND.,

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WIDE as are the applications of the Roentgen rays in the diagnosis of disease no more interesting field of investigation exists than that which comprises the subject stated above. This method of demonstration in relation to these diseases and injuries is of great importance. A radiographer should be a trained clinical observer and not merely a taker of radiographs, for on the correct interpretation of what one actually sees depends very largely the value of diagnosis by radiography. When Professor Roentgen first announced his great discovery medical men were eager to avai [illegible] new aid to diagnos [illegible] could be applied [illegible] the direction of [illegible] of foreign bodies in the walls of the skull and cranial cavity the value of the new aid to diagnosis was great. Improved methods of application and instrumentation led to more accurate results until at the present time it is possible to show many lesions and injuries in the skull and its adjacent parts and in the brain itself. The position of foreign bodies can be clearly shown, fractures of the skull can be located, abscess of the brain should give a definite shadow, and the correct location and size may be shown in the skiagram. Tumours of the brain are also capable of being demonstrated; those which are attached to or have their origin in the bony walls or periosteum of the skull are readily recognised. The nature and consistence of cranial tumours determine the degree of the shadow which they are likely to give. A tumour having the same consistence as the brain tissue will not give a definite shadow, but a tumour of greater density than brain tissue should be capable of demonstration. In radiography of other parts of the body one has to show bones in relation to soft parts and, as a rule, [illegible] in cranial radiography there [illegible] of dealing with a bony case consisting of two more or less thick walls with a space of several inches between. The early radiographs show merely an outline of the skull as a whole, with shadows of varying density which might or might not be capable of interpretation. Later efforts have been more successful in showing the various component parts of the bony skull and the contents of the cranial cavity.

In order to get a good radiograph of the skull and its contents it is necessary to use a fairly powerful coil and to vary the exposure according to the amount of current used. Most of the coils in use at the present time give a large output of energy and if one can get a tube with a sufficient degree of penetration the demonstration of the skull and its contents is made comparatively easy. An x ray tube with a spark gap of five or six inches is capable of penetrating the average skull. The time exposure will vary with the thickness of the subject and the rapidity of the photographic plate in use. Several of the skiagrams taken have been done with a portable apparatus and others with powerful stationary installations. The exposure varies from five seconds to five minutes and good results have been obtained with various exposures between those limits. Recently it has been possible to get good detail with even shorter exposures than five seconds, and no doubt in time an exposure of a fraction of a second may be sufficient to overcome the resistance of the parts and yield good results.

The chief advantage of a short exposure lies in the fact that movements are reduced to a minimum and the resulting shadow is more clearly defined in consequence. While this is of great value in the radiography of regions of the body where movement is constantly going on, such as in the lungs and heart, it naturally has not the same importance in the case of the skull, where we have a rigid bony case to deal with. Yet no doubt even here short exposures will yield better results.

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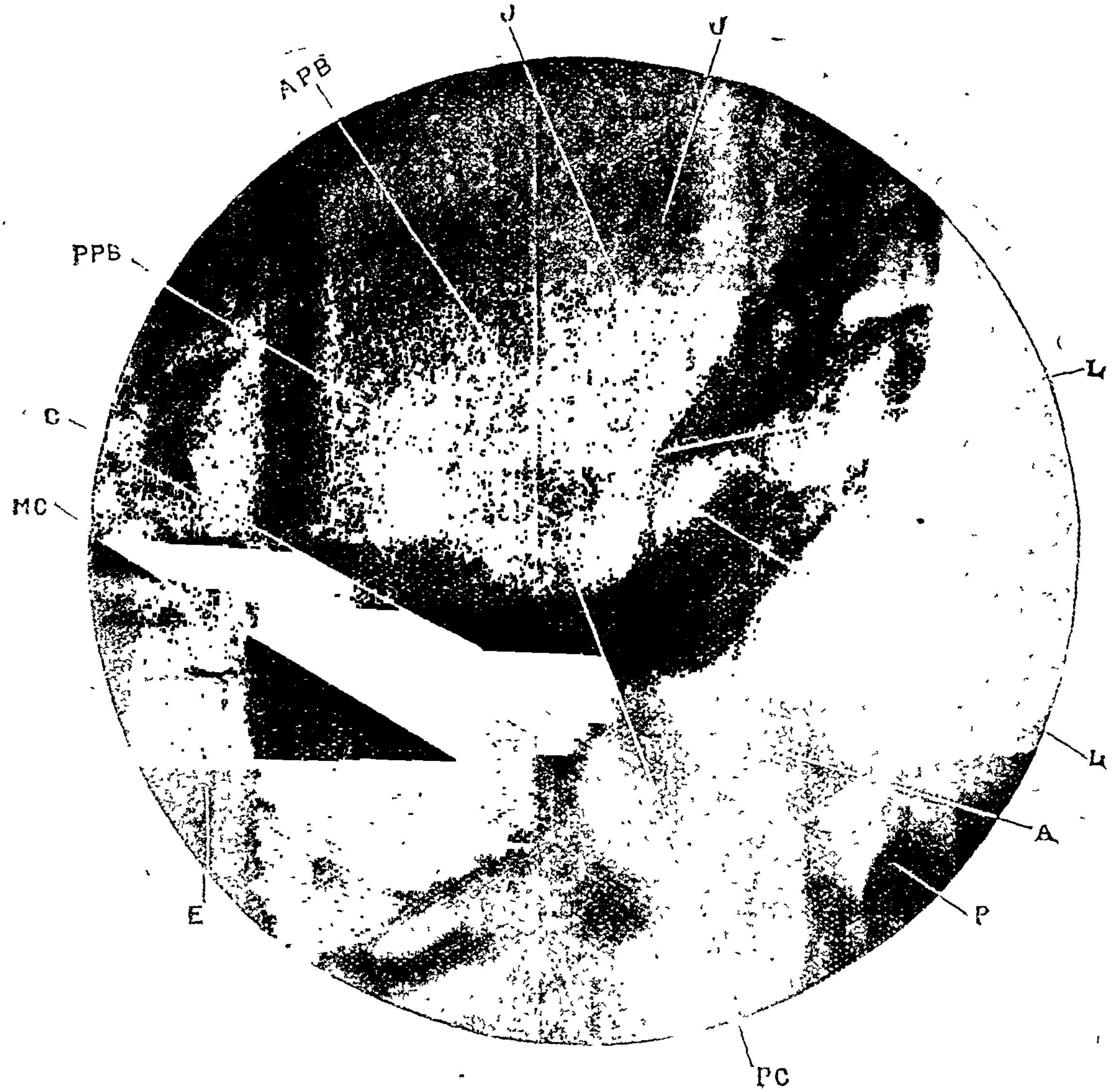
[2] THE LANCET, Sept. 5th, 1908, p. 708.

[3] Journal of Pathology and Bacteriology, vol. iii, 1896.

Quite recently the exposure time has been cut down to fractions of a second. This has been achieved by means of Wehnalt breaks and a special time switch which automatically cuts off the current at the proper moment. The radiographs so produced are remarkable for the clear definition of the parts taken, and one can readily understand why this should be so. The exposure is shortened by increasing to an enormous extent the amount of current passed through a tube. The tube will stand the strong current only for a short time, but sufficiently long to enable the rays to penetrate the thickest portions of the body and give good results. The important point about the new development lies in the very short duration of the exposure and the consequent elimination of the effects of voluntary and involuntary movements on the part of the subject. In the case of children this is a very important factor in the obtaining of good radiographs. Another advantage is that the patient can be placed at a greater distance than at present. At about six feet from the anode of the tube a shadow can be obtained which accurately represents the size of the organ radiographed. In heart work this promises to be extremely useful and the result will probably be that orthodiagraphy will be largely superseded by the new method.

In order to appreciate and demonstrate the existence of abnormalities it is necessary to be familiar with the normal appearances of the parts under consideration. The skiagram shown below, represented in *Fig. 1* (a reproduction of a radiograph of a normal skull showing the principal bony points), was taken from a normal subject and an examination of its details will show the chief bony points which it is necessary to note for comparison when considering possible abnormalities.

FIG. 1



Skiagram of a normal head, showing appearances at the base of the brain. Note especially the two portions of the pituitary body, the anterior portion being situated in the sella turcica (APB) and the posterior portion behind it (PPB). A, Condyle of lower jaw. P, Artificial plate in upper jaw. PC, Posterior clinoid process. F, Cerebellum. MC, Mastoid air cells. C, Petrous part of temporal bone. J, Groove for blood-vessels. L, Anterior clinoid process.

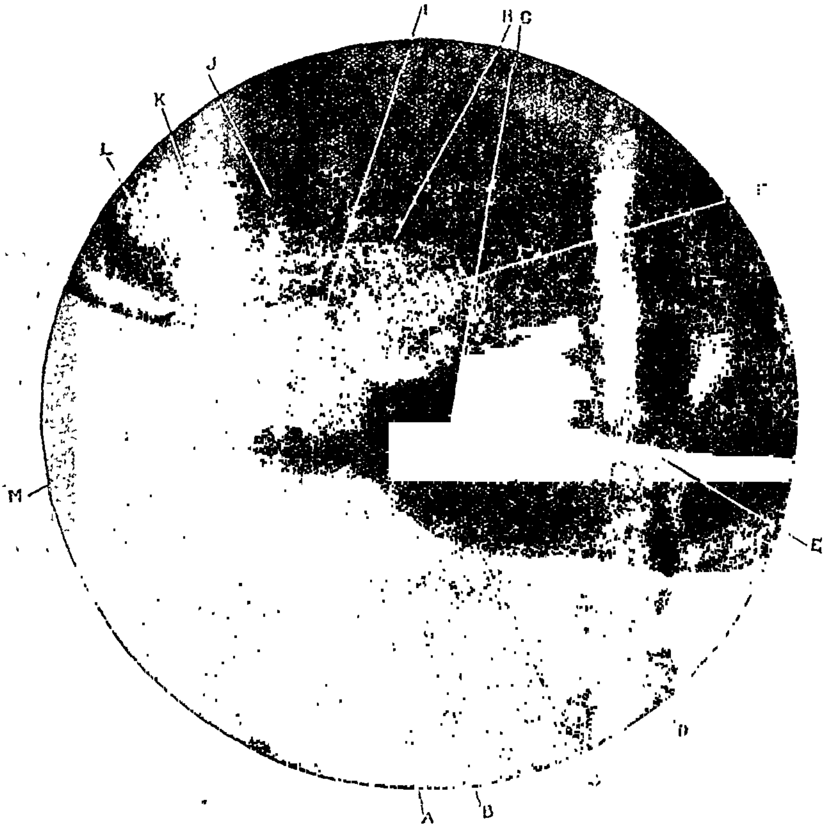
The points to observe are the levels of the base of skull in relation to the exterior, the clinoid processes the sella turcica between, the relations of the chief to the various levels, and the well-marked grooves in inner table of the skull for blood vessels. A clearly shadow is thrown by the pituitary body situated in sella turcica. The three levels of the base of the skull well shown. This radiograph was taken with a intensified induction coil by Watsons and a Mote break on a voltage of 240. The tube used was a anode by Muller and the equivalent spark gap was inches. The exposure was a long one of about minutes. A simple diaphragm compressor was used to econdary radiations. An Ilford special x ray plate was [illegible] The developer was pyro soda. The development of plate took half an hour.

ig. 2 shows the appearance of the skull in a case of bral tumour: a chiasma lesion of fairly large size. The ogram which it represents was taken with a diaphragm veen the tube and the subject to cut off secondary ations. The case was sent to me by Dr. W. Mailer of well-hill, and Dr. Purves Stewart has kindly supplied me the following particulars:—

> e patient was a man, aged 35 years, who complained of persistent siness of several months' duration. A month before coming under the whole skull and showed an obscuration of detail in the region of the sella turcica. It was noticed that the anterior clinoid processes were barely perceptible while the posterior were *obliterated.*

The appearances seen in the skiagram can be interpreted as follows: A well-defined shadow occupies the sella turcica and extends backwards to the posterior limit of the petrous temporal bone; it is of varying density, having light and dark areas in its midst. The anterior clinoid processes are ill defined and appear to be spread out laterally. The posterior processes are not to be seen. The shadow of the tumour fades away into the brain substance.

FIG. 2.



Sk[illegible] Note obliteration of definition of sella turcica. A, Condyle of lower jaw. [illegible] process of vertebra F, Cerebellum. F, Shadow of tumour. G, Petrous [illegible] umour. I, Lower limit of shadow of tumour. J, Groove for blood vessel.

[illegible]

in.

The x ray examination of this case was particularly in-uctive. [illegible] which was unded an [illegible] had well-veloped c [illegible] included

The examination of the brain offers the greatest difficulties in the Roentgen diagnosis of diseases. Dr. Paul Regnier and Jules Gloner have published a paper on this subject which is full of useful information. Dr. D. Walsh summarises their results as follows:—

> Their main conclusions are that it is possible to superimpose upon the [illegible] outline of the cranial sutures and of the cerebral [illegible] eral ventricle can be [illegible] of the lateral sinus, [illegible] nd the adult. The [illegible] y cells of the bony sinuses can be studied The exact position of the three levels of the base of the skull can be ascertained with regard to the outer skull.

The exposures they gave were long ones, from 10 to 40 minutes. Such exposures are not safe in the living subject. None of the exposures in the cases quoted in this paper exceeded four minutes. Good results can be obtained with an exposure of five seconds and in view of the recent developments one is safe to predict that in the future it will be possible to get a good radiograph from the living subject with a second's exposure and possibly with one of a tenth of a second. The advantages of such a short exposure cannot be over-estimated. With such short exposures it will be possible to clearly outline the bony points of the skull, the grooves for the blood-vessels in the walls of the skull, and possibly the outlines of the chief parts of the brain. Abscesses in the brain might be shown, and it might even be possible to locate hæmorrhage of any considerable size. Tumours are capable of being demonstrated and located. The aid to diagnosis and localisation of such tumours will be great.

Dr. Walsh, in his book "The Röntgen Rays in Medical Work," quotes several interesting cases by various workers and describes methods for the localisation of foreign bodies in the brain. By a simple method which he describes it is, as he says, possible to locate with the tube in two positions by bringing an opaque object into line with the foreign body and then marking the entry and exit of that line on both sides of the skull, the point of intersection being the site of the foreign body. In a case of bullet in the brain a rough method of localisation was adopted by me to which I will refer. A thin piece of wire was placed around the head as nearly as possible in line with the lower and outer angles of the orbits and the mastoid processes. Another piece was carried over the vertex of the skull in line with the anterior edges of the auricles. The patient was then placed on his side with the plate underneath his head, and a radiograph was obtained in this position. The position was then reversed and one taken from the opposite side. A third negative was obtained in the antero-posterior position. On comparing the three plates it was seen that a large fragment of the bullet was lodged in the occipital region immediately underneath the bone and on the right side of the brain. The surgeon who operated on this case was able to locate the bullet accurately and made his trephine wounds in the skull in such a position that when the bone was removed the portion of bullet could be felt with a probe in the position indicated by the radiographs. An instrument capable of being adjusted to fit the skull of any individual could readily be devised of such a nature that the various portions of the skull and brain could be divided into sections and when used in radiography would show where a foreign body was situated.

In a case of a foreign body in the right eyeball we were able to see from the radiograph that the fragment of steel was clearly in the eyeball and from its size it was evident that the function of the organ must necessarily have been destroyed. The eyeball and foreign body were removed by operation. For purposes of localising foreign bodies in the eyeball Dr. J. Mackenzie Davidson has devised a useful apparatus which should be applied in all cases where doubt exists as to the exact position of a foreign body in the orbit. The importance of determining whether a foreign body is in the eyeball or in the orbit is, of course, obvious, and careful radiographic examination should be made in all such cases before an operation is decided upon.

The examination of the ear by radiography may be helpful in cases of disease. Abscesses in the mastoid region should be capable of demonstration. The frontal sinuses and antrum can be examined by taking negatives in various positions, and, where possible, a probe passed into these cavities before the radiograph is taken will help to clear up the diagnosis in diseases of those parts.

Shepherd's hill, N.

SHREWSBURY EYE HOSPITAL.—At the annual meeting of the Shrewsbury Eye, Ear, and Throat Hospital, an institution which was established as long ago as 1818, the honorary ophthalmic surgeon, Mr. C. G. Russ Wood, commented on the large increase in the number of children who required spectacles. The increase is, no doubt, more apparent than real and is due to the inspection of school children which is being carried out in Shropshire and the adjoining Welsh counties from which the patients of the hospital are drawn. During the past year an entirely new system of drainage has been carried out at the hospital and a new out-patient operating theatre has been erected. In spite of the unusual expenditure thus entailed the balance-sheet was a satisfactory one.

SOME REMARKS ON TUBERCULIN THERAPY.

BY A. J. LANDMAN, M.D., CH.B. VICT.,
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THE growth and increasing importance of vaccine therapy at the present time is generally recognised. The opsonic method of Wright has established this mode of treatment on a scientific basis. The brilliant results obtained by this treatment in staphylococcic infections have led to the hope that equally good results might be obtained in other infections. Thus the vaccine treatment of tuberculosis originally introduced by Koch has again been brought into prominence, and tuberculin, which had fallen into disrepute, was again taken up as a curative agent. Administered according to the principles laid down by Wright, tuberculin has proved free from the dangers formerly associated with it, and in many cases good results have been obtained. While the final verdict cannot yet be given as to its efficacy it may be said that the results obtained have been encouraging.

Since the introduction of tuberculin by Koch[1] about 17 years ago for the curative treatment of tuberculous disease there have been marked fluctuations in its popularity in the medical world. It was received with enthusiasm and subjected to extensive clinical trials. But it was not destined to fulfil the hopes entertained of its utility. Many observers reported that it was a dangerous remedy and it soon fell into disrepute. The report of the Brompton Hospital for Consumption, 1892, stated that tuberculin did not favourably influence the course of the disease in the majority of cases. [illegible] was probably excessive. It proved [illegible] reasons. The doses recommended by Koch were too high, and it was used in unsuitable cases. But the fact remained that it was practically abandoned as an agent, if not positively harmful, at least incapable of effecting the good claimed for it. It was no longer looked upon as a curative agent, but the febrile reaction which it produced in a tuberculous individual was regarded as of value in diagnosis. In veterinary practice it has found a permanent value as a means of recognising concealed tuberculosis, and recently Calmette, Wolff-Eisner, and von Pirquet have utilised it successfully for human diagnosis.

The dangers associated with the administration of old tuberculin led Koch and his pupils to continue their researches in order to produce a safer tuberculin. In 1897 Koch[2] announced that he had prepared a new tuberculin which retained the curative and immunising power of the old one, but did not produce any dangerous febrile reaction, and no ill-consequence resulted from its use in tuberculous cases. The dose recommended by Koch was 1-500th milligramme, gradually increased to 20 milligrammes. The introduction of the new tuberculin T.R. caused some renewal of interest in the subject for a time, but in England it did not seem to gain any general hold.

Recently Koch has introduced a new tuberculin B.E. (Bacillen-Emulsion). Assuming that tuberculin acts in the same way as the other vaccines, the preparation B.E. should prove the most satisfactory of all the tuberculins. During the last few years there has been a considerable revival of interest in the tuberculin treatment. This has been due in England chiefly to the researches of Wright on opsonins and the application of his opsonic index determinations to the treatment placing it in a line with the treatment by other vaccines. But it must not be forgotten that many physicians have continued to use tuberculin ever since its introduction quite independently of Wright's work on the subject. The detailed method associated with Wright's name for the determination of the opsonic index is not an essential part of the therapeutic application of tuberculin. Previously the tuberculin treatment has been regulated by other clinical signs, including pulse, temperature, patient's aspect, local symptoms and signs, and prolonged experience justifies the statement that these clinical signs will suffice, apart from opsonic index determinations. The complexity of the technique of Wright's method is also an insurmountable difficulty in many cases, and detracts greatly from its general utility. The margin of error in such a complicated process must necessarily be considerable, and this fact must also be taken into consideration in estimating the practical value of opsonic index determinations. The question of the utility of the method in practice must therefore still remain an open one. Wright's work, however, has given a fresh start to the active immunisation method of the treatment of tuberculosis, and what we particularly owe to Wright is the demonstration that small doses of tuberculin are effectual and that large ones are unnecessary. The peculiar action of the tubercle bacillus, as shown by the slowness and chronicity of the lesions which it produces, the tendency to spontaneous healing of tuberculous foci by caseation and encapsulation, place this organism on a somewhat different footing from the other organisms as regards the process of immunisation, and the dosage of tuberculin may differ from that of the other vaccines. There is little doubt, however, that in certain cases of localised tuberculosis, such as lupus, tuberculous joints, glands, and genito-urinary tuberculosis, improvement has followed the use of tuberculin according to Wright's method.

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[1] R. Koch Mittheilung [illegible] d Tuberkulose. Deutsche Medicinische [illegible] Mittheilungen uber das Tuberkulin, ibid [illegible] nd, 1891.

[2] Deutsche Medicinische Wochenschrift, April 1st, 1897.

Further study will be necessary before the exact nature of opsonin and opsonic action is fully understood. The opsonic theory attempts to explain the action of vaccines by their stimulation of the immunising machinery of the body to the increased formation of opsonin. Wright holds that the practical application of the opsonic theory, as shown by the method which he has described of estimating the opsonic index, enables us to follow the successive phases of immunisation, and we can step in and assist the process at appropriate times by injections of vaccines. By estimating the opsonic index in cases of tuberculosis he was able to observe the variations in the amount of opsonin present as shown by what he called the positive and negative phases. From these variations he deduced that in an untreated tuberculous individual spontaneous auto-inoculations occur from time to time which follow a certain cyclic periodicity. The negative phase, or the period of low opsonic index, shows that there has been an outpouring of either tubercle bacilli or their products of metabolism into the system from the tuberculous focus and this has used up most of the opsonin present. The positive phase which followed the negative was due to the increased production of opsonin, owing to the stimulation of the machinery of immunisation by the bacilli and their products. He also showed that these auto-inoculations could be influenced by artificial means; thus, by massage of a tuberculous knee he brought about a negative phase due to the increased outpouring of bacilli and their products. He utilised such artificial auto-inoculations as an aid to diagnosis. To take the same example, the diagnosis of a certain chronic knee affection was required. The opsonic index was taken, massage or passive movement was performed, and the opsonic index again estimated. The second estimation showed a lower index than the first. The joint was therefore tuberculous. He also showed that the administration of tuberculin acted in a similar way to spontaneous or artificial auto-inoculations. A dose of tuberculin was followed by a negative phase. Opsonin was used up for coping with the inoculum. This provoked a fresh production of opsonin in increased amount and was therefore succeeded by a positive phase. The process of immunisation could thus be regulated by appropriate doses of tuberculin at suitable intervals, the aim of the injections being to get the index to oscillate within normal limits as in a healthy individual. Clinically the negative phase coincided with a feeling of illness, the temperature perhaps was raised, and the pulse accelerated. On the other hand, during a positive phase the patient felt better and brighter. Wright[3] showed that the amount of opsonin in the serum also corresponded with the amount of other immunising substances. He tested this by measuring the agglutinative power of the blood of a guinea-pig, which was subjected to inoculations of glanders bacilli sterilised by heat. The amount of agglutinin in the blood showed positive and negative phases similar to those in opsonic estimations. The course of the immunising reaction could be followed either by measuring the amount of opsonin or the amount of agglutinin present in the blood. By estimating the opsonic index, therefore, from time to time we are enabled to gauge the progress of immunisation and to help it on when necessary by inoculation of tuberculin.

The technique of opsonic index determinations is far too complicated. If we are to carry out the treatment properly very frequent estimations of the index are necessary, and the variations due to spontaneous and artificial auto-inoculations must be taken into account or eliminated. As Wright himself has pointed out, spontaneous auto-inoculations affecting the opsonic index are of constant occurrence, the result of exercise, excitement, and various other factors, and the question may well be asked whether even daily estimations of the opsonic index which is subject to such frequent changes can afford any reliable guide to the progress of immunisation. Some observers have attempted to simplify the technique. Thus Simon,[4] working with the staphylococcus, states that he has secured results strictly comparable with Wright's opsonic (bacillary) index by comparing the number of leucocytes which show phagocytosis with those that do not (percentage index). To perform this it is necessary to use such a thin emulsion that at least 50 per cent. of the leucocytes do not contain any organisms. This method renders the counting much less laborious, but it is open to the objection that the serum, having the higher value in opsonin, does not meet with a sufficient number of bacilli to enable it to show its full opsonic power, and an experimental error is thereby introduced. The present tendency is to seek some other reliable guide to the administration of tuberculin than opsonic index determinations, and the researches that are being carried out at the present time have been undertaken with that object. Thus the recent work of Dr. A. Latham and Dr. A. C. Inman[5] has thrown valuable light on the dosage and mode of administration of tuberculin, based on observations of the temperature and clinical condition of the patient, combined with simultaneous observations of the opsonic index. Wright's method has, however, been of undoubted value in giving a great stimulus to vaccine and tuberculin therapy and placing this mode of treatment on a scientific basis, replacing the former empiricism and uncertainty of dosage by some degree of precision.

The following cases were under my care at the Ida and Robert Arthington Hospitals whilst I was resident medical officer there, and I am indebted to Mr. Harold Collinson, honorary surgeon to the hospitals, for granting me the necessary facilities for carrying out the tuberculin treatment. The opsonic estimations were undertaken by myself, with the assistance of Dr. O. C. Gruner, pathologist to the Leeds Infirmary. In all cases the tuberculin treatment was carried out in addition to the ordinary remedial measures. (The hospitals are so constructed that patients can undergo open-air treatment as in a sanatorium.) No special selection was made in the cases for treatment, and it was therefore tried in various conditions of advanced and early phthisis, glandular and bone tuberculosis. The injections were given in the flanks, using an all-glass syringe, and the patients remained in bed for 24 hours after each injection to eliminate as far as possible any spontaneous auto-inoculations. As regards the technique employed for estimating the opsonic index, the only modifications from that described by Wright were, that instead of taking equal quantities of the three constituents—viz., emulsion of tubercle bacilli, leucocytes, and serum—it was found better to use equal quantities of emulsion and serum with twice the quantity of leucocytes. The controls were made with my own serum which was previously compared with Dr. Gruner's and found to give about the same index. In order to minimise the experimental error as far as possible, the opsonic index of a second healthy person's blood was taken in many cases and the mean of the two used as a standard. It was also found that if a long series of "bloods" were examined on any one occasion, the last two or three always gave an unduly low opsonic index. It is known that the opsonic power of the serum diminishes gradually after it has been withdrawn from the body, and this may be the explanation of the above fact. In order to avoid this error it is advisable not to test more than six bloods on any one occasion, and all the specimens should be obtained within a

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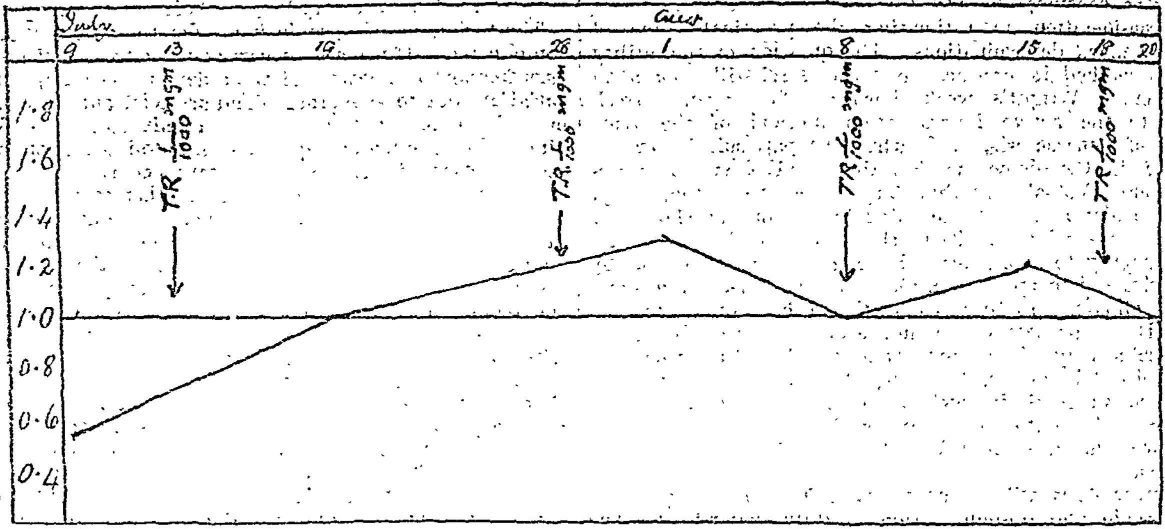
[3] Wright: THE LANCET, Nov. 2nd, 1907, p. 1217.

[4] [illegible]

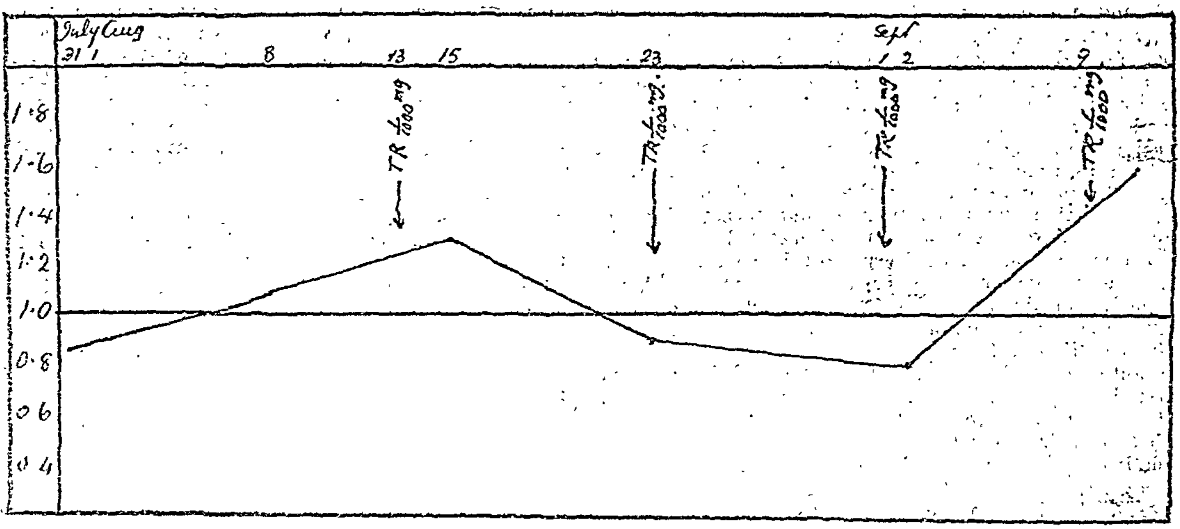
[5] [illegible]

CHART 1.



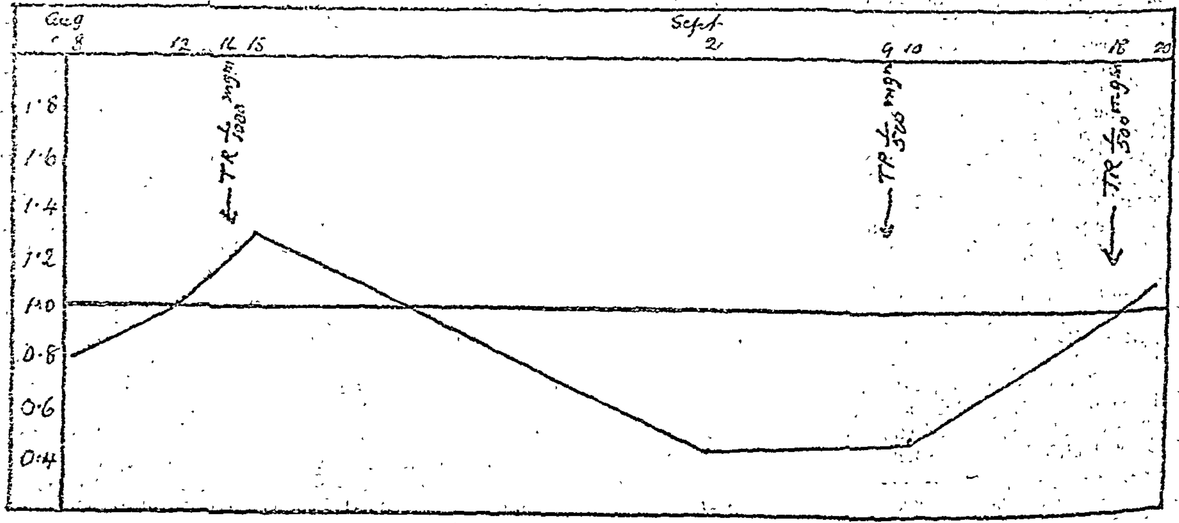
Record of opsonic index in Case 1. The doses in this and the following charts represent the quantity of dry tubercle bacilli administered. If expressed in terms of the dry powder resulting from the repeated disintegration and extraction of the bacilli the doses would be one-fifth of those given.

CHART 2.



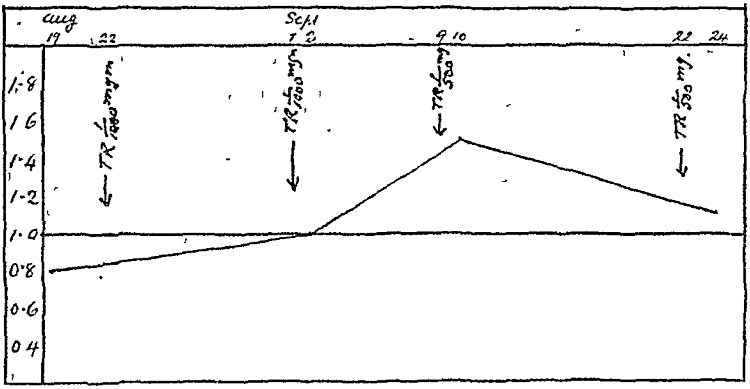
Record of opsonic index in Case 4.

CHART 3.



Record of opsonic index in Case 6

CHART 4.



Record of opsonic index in Case 12.

short time of each other. The following are brief details of the cases:—

t years, was admitted to the Robert ...th, 1907. Chronic phthisis (right); numerous tuberculous abscesses of brile. Vaccine treatment, complete scharged on August 3rd very much healed up, gained considerably in weight.

years, was admitted to the tubercle bacilli in sputum; so creosote intermittently Sanatorium. Disease not r period of his stay at the

seemingly arrested. No cough or fever.

Case 11.—The patient, aged 23 years

on
nal
) no

The results cannot be said to show anything conclusive. Several cases seemed to derive benefit from the tuberculin inoculations. The injections raised the opsonic index in several cases but the negative phase was not at all constant It is difficult to say whether the favourable results observed might not have been due to the open-air treatment alone. No harmful results were noticed after the inoculations, except in one case. This patient, aged 20 years, was an in-patient at the Robert Arthington Hospital six months previously for tuberculous disease of a rib and had received three or four inoculations of the tuberculin in the left forearm. She was discharged cured. In August, 1907, she was re-admitted with a tuberculous abscess of the left forearm which had developed at the site of the inoculations. The abscess was opened and scraped and soon healed. No further injections of tuberculin were given The formation of an abscess was probably due to the presence of living bacilli in the tuberculin used.

Gower-street, W.C.

THE

CEREBRO-SPINAL FLUID IN GENERAL PARALYSIS AND THE NERVOUS LUES.

BY G. S. WILLIAMSON, L R C.P. & S. EDIN.,
ASSISTANT DIRECTOR OF THE CLINICAL RESEARCH ASSOCIATION.

IN the light of Dr. F. W. Mott's *Morison lectures* the following research, conducted during the winter of 1907-08 at Greenock Poorhouse and Asylum, ought to prove of interest. A small amount of normal citrate solution was taken up in the syringe and ejected as the needle penetrated the tissue; in this way *little or no blood was drawn into the* syringe with the fluid, and the amount of citrate in the fluid

pecific gravity.

were reserved

quantity being used for cultural tests. In the post-mortem cases the ventricles were tapped before the brain was exposed and the cerebro-spinal fluid withdrawn, as in life. The cultural tests were undertaken with the view of testing Dr. W. Ford Robertson's hypothesis for general paralysis of the insane. The appended table gives the results of the chemical examination.

In making a count of the cells, 5 cubic centimetres of fluid were centrifugalised at high speed, the supernatant fluid poured off, and the deposit shaken up in ½ cubic centi-

ces of formalin

the cells en-

The fluid of the general paralytics differs from the normal in having a high *specific gravity and containing nucleo-*proteid, in having a high count of cellular elements, and in giving a precipitate with butyric acid, according to Noguchi's method. The only case which gave a negative result was *one of some years' standing* and suffering at the time from profound melancholia. In the three cases in which the Wassermann test was applied a positive result was obtained and confirmatory to the Noguchi test. The cases of tabes dorsalis were uniform in containing nucleo-proteid in their cerebro spinal fluid. Three out of five gave a Noguchi

Table showing the results of the Chemical Examination.

—	Reaction.	Specific gravity.	Reduction of Fehling solution.	Presence of nucleo-proteid.	Presence of albumose.	Presence of cholin.	Precipitate in Noguchi test.	Wassermann's reaction.	Number of lymphocytes or cells.
General paralysis.	Acid.	1009	−	+	+	+	+		6
,,	Alk.	1011	+	+	−	−	+	+	5
,,	Ampho.	1009	+	−	+	−	+	+	3
,,	Alk.	1012	−	+		−	+	+	4
,,	,,	1008	+	+	−	−	−		0
,,	,,	1011	+	+	−	−	+		11
Tabes dorsalis.	,,	−	+	+	−	+	?		0
,,	,,	1010	+	+	−	−	+		4
,,	,,	1005	+	+	−	−	+		0
,,	,,	1009	+	+	−	+	−		0
,,	,,	−	+	+	+	+	+		3
Tabo-paralytics.	,,	1009	+	+	−	−	+	+	11
,,	,,	1004	+	−	−	+	−	−	7
,,	,,	1010	+	+	−	−	−	−	0
Optic atrophy primary.	,,	1016	+	+	−	+	−		8
,,	,,	1013	+	+	−	+	−		5
Cerebral syphilitic gumma post mortem.	,,	1001	+	−	+	−	+		0
Six normal persons.	,,	1005-9	+	−	−	−	−		0-4
Four normal persons.	,,	−	+	(1+) −	(1+) −	−	−		0-2
Two cases of heart disease.	Ampho.	1001 1003	−	+	−	−	−		0
One case of pernicious anæmia.	Alk.	1002	−	+	+	−	+	+	0
hree cases of syphilis.		1005-7	+	+	(1 +) −	−	+		4 average

precipitate. The tabo-paralytics, three in number, were selected for a Wassermann test; one out of the three gave a positive reaction and was also the only one to give a precipitate by Noguchi's method. Four cases of general paralysis, all the cases of tabes dorsalis, the cerebral syphilis, and the syphilitic cases had undoubted evidences of syphilis, and all gave the Noguchi reaction. It is noteworthy that one case of pernicious anæmia gave the Noguchi reaction and also Wassermann's reaction, although no history of syphilis could be obtained. In the seven cases in which Wassermann's reaction could be done the result confirmed the Noguchi reaction.

These facts are significant, but, of course, with only a small number of cases there is no justification for dogma.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NOTE ON A CASE OF HYDATID DISEASE OF LUMBAR VERTEBRA.

BY A. F. THEOBALDS, M.B., CH.B. EDIN.,
RESIDENT ASSISTANT MEDICAL OFFICER TO ST. LUKE'S HOSPITAL, SALTERHEBBLE, HALIFAX; LATE PATHOLOGIST AND ASSISTANT MEDICAL OFFICER TO THE WEST RIDING ASYLUM, WAKEFIELD.

HYDATID disease of bone is a somewhat rare condition and the following case is of interest both from the advanced age of the patient and the prolonged duration of the disease.

The patient was an inmate of the West Riding Asylum and was 75 years of age. He had been admitted six years previously from the workhouse and nothing was known of him or of his previous life. It is interesting to note that on admission two small scars were observed over the sacrum which he said were due to an abscess which had been opened, and into which he maintained "13 worms had been put," this remaining one of his fixed delusions. His general health appeared to be very good at this time and it was only about seven months before his death that symptoms of spinal disease showed themselves, the patient becoming paralysed in the lower limbs. The reflexes were lost and both the bladder and the bowel were involved, and the small fluctuating tumour was noticed in the right lumbar region.

The post-mortem examination was made 20 hours after death. The body was emaciated and the lower limbs showed considerable wasting and some contracture. A soft fluctuating tumour of about the size of an orange was present in the right lumbar region and a distinct want of continuity was felt in the spine at its lower end, and there was a slight abrasion of the skin over the sacrum. On incising the tumour it was found to be a suppurating hydatid cyst and about a pint of fluid was evacuated containing numerous daughter cysts varying in size from that of a grape downwards. The cyst was thick-walled and it consisted of two cavities, the upper one extending upwards as far as the second lumbar vertebra on the right side and compressing the muscles, and the lower one somewhat to the left of the sacrum between the ilium and the pelvic muscles, quite extraperitoneal but bulging into the abdominal cavity and forming a somewhat prominent tumour. The cavities communicated with each other, and on further investigation the body of the fifth lumbar vertebra was found to be quite carious, great destruction of bone having taken place, causing fracture of the spine. No new bone formation was seen. The lumbar vertebræ were removed, the fourth and fifth alone being involved. Tiny cysts were seen infiltrating the bone and had penetrated and lacerated the periosteum, the vessels of which were much injected. The membranes of the cord appeared to be healthy, but a few cysts were seen in the cauda equina. The right iliac crest was also carious, evidently from pressure, as no cysts were seen. No other cysts were found in the brain or other organs. There were evidences of cystitis and an ascending pyelitis and slight atheroma of the aorta.

On microscopical examination of the cysts numerou scolices and hooklets of the tænia echinococcus were seen, the walls of the large cysts showing laminated structure with considerable leucocytic infiltration. The lumbar and cervical regions of the cord were stained by the Weigert-Pal method and showed well-marked degeneration in the posterior columns, both postero-median and postero-externa being affected in the former, the postero-median alone being affected in the cervical region.

I am indebted to Mr. W. Bevan-Lewis, medical superintendent and director of the West Riding Asylum, for permission to publish this case, and to Dr. T. Dawson, assistant medical officer, for the clinical notes.

Wakefield.

A CASE OF COMPLETE ANÆSTHESIA INVOLVING A SINGLE DIGIT.

BY J. M. POSTLETHWAITE, B.A. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.,
AND
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HOUSE SURGEONS, BLACKBURN AND EAST LANCASHIRE INFIRMARY

THE patient, a painter, aged 22 years, came to the Blackburn and East Lancashire Infirmary in July, 1908, owing to loss of sensation in the middle finger of his right hand. He had noticed nothing abnormal about his finger until he reached the age of 16 years, and so far as he could remember there had never been any injury to his hand or arm. When he was 16 years old he grazed the right middle finger when at work, and he was surprised to find that he felt no pain. Previous to the patient's discovery of loss of sensation in his finger he had been a painter for two years. He had no illness in his childhood with the exception of otorrhea, and his father stated that to the best of his knowledge the patient had no injury of any description when a child. At the age of 17 he had an attack of pneumonia, but as this was after the onset of the digital anæsthesia it can have no bearing on the condition. The patient had never been abroad. His father, mother, five brothers, and one sister were alive and well. One brother died as the result of an accident.

When the patient came
looking man, well-develo
points were noted. His
accommodation; there was no nystagmus and the disc was normal. The tongue was clean and the teeth were fairly good. The throat was normal and there were no enlarged cervical glands. Nothing abnormal could be discovered in the heart, lungs, or abdomen. The skin was dry, but sensation was everywhere normal, with the exception of the finger under consideration. The knee-jerks were brisk and the plantar response was flexor. The urine was acid, of specific gravity 1020, and contained no sugar or albumin.

On inspection the affected finger seemed perfectly normal, with the exception of a partially healed blister on the palmar surface of the distal phalanx, caused by the application of a lighted match to demonstrate the anæsthesia to a group of the patient's friends. Movement was natural. The surface temperature of this finger differed in no way from the rest. Tactile and thermal sensations were entirely lost, and the patient was insensible to pain. (As we stated above, he did not experience any discomfort when a lighted match was held to the finger.) He did not feel a strong galvanic or faradic current when applied to his finger. In order to ascertain if the bones or joints of the finger were in any way affected we obtained an x-ray photograph, which showed no abnormality present. The anæsthesia was very definitely limited to the right middle finger.

The following explanations suggest themselves:—

1. *Syringomyelia.*—Sensations of pain, heat, and cold are lost, which would be in favour of this condition, but tactile sensation is also lost, and in addition to this the main nerve trunks (median and radial) are unaffected, the anæsthesia being limited to the terminal portions of those nerves supplying the middle finger of the right hand. Déjerine states that in rare cases of syringomyelia there may be complete anæsthesia of the skin, and this may possibly be such a case, though there are no other symptoms—for example, irregular pains or muscular wasting—which would point to this condition.

2. A localised peripheral neuritis due to—

(*a*) *Traumatism.*—It is possible that the nerve trunks around the root of the finger may have been crushed during the patient's childhood and have never regained their functions. Such crushing must have been limited to the one knuckle, since sensation is perfect over the whole of the flexor and extensor surfaces of the rest of the hand and of the forearm, and the electrical reactions of all the muscles are normal. The skiagram shows that there is no gross lesion which might be interfering with the digital nerves at *the present time.*

(*b*) *Lead.*—In favour of a lead neuritis is the fact that the patient had been a painter for two years before he noticed the condition. But this explanation is practically put out of court by the fact that there has never been any trace of muscular paralysis. The occurrence of otorrhœa during the patient's childhood suggests the very remote possibility of
ocalised neuritis, but
grounds to the lead
likely that a lead or
diphtheritic neuritis would persist for six years as such a definitely localised condition.

(*c*) *Gummatous affection.*—There were no symptoms pointing to the presence of the disease, and it would be rare indeed for the toxin to affect definitely localised terminations of two separate nerve trunks.

A NOTE ON OPERATION FOR HERNIA AT THE EXTREMES OF LIFE.

By H. W. WEBBER, M.S. LOND.,

SURGEON TO THE SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.

CASE 1.—On June 8th, 1908, I was asked by Mr. J. Elliot Square to see a man, aged 93 years, who was suffering from a strangulated inguinal hernia. The hernia was of some years' standing and had been more or less controlled by a truss, but on the present occasion reduction failed to be effected. The old man was in very good general condition and had vomited only twice. A drachm of novocaine solution having been injected subcutaneously over the site of the incision the division of the skin and superficial tissues was effected painlessly, but as much pain was complained of on incising the deeper parts and the patient began to throw himself about chloroform was administered to the stage of light anæsthesia. The hernia was a direct external one and the sac contained six inches of ileum. Reduction of the intestine and closure of the wound were performed in the usual manner, the sac being simply closed with catgut sutures at the neck and left *in situ*. The patient recovered well from the operation and the wound healed with only a little superficial infection. About a month later, however, he developed a cough and was found one morning dead in bed.

CASE 2.—A newly-born male child was admitted to the South Devon and East Cornwall Hospital at 5 P.M. on July 17th, 1908, having been born at 3 P.M. Through the unclosed umbilical opening there projected into the substance of the funis four or five coils of small intestine to a distance of three inches from the level of the skin, forming a pear-shaped tumour, the intestine being very thinly covered with the thinned-out gelatinous matter of the cord. Beyond the tumour the cord was of normal appearance and had been ligatured in the usual manner. The child presented a supernumerary auricle on each side, a cleft palate, and had a supernumerary digit on each hand. At 6.15 P.M. A.C.E. mixture was administered and an incision was carefully made through the thin covering of the intestines which were easily reduced into the abdominal cavity. One of the coils was found to be connected with the tissue of the cord by a thin fibro-gelatinous band which evidently represented Meckel's diverticulum. This was tied with fine catgut and divided. The umbilical opening was then closed with three catgut sutures and the edges of the skin approximated. The child took very little nourishment, became gradually weaker, and died early on July 19th.

Plymouth.

Medical Societies.

ULSTER MEDICAL SOCIETY.—A meeting of this society was held on March 30th, Dr. T. S. Kirk, the President, being in the chair.—The following specimens were shown:—Professor T. H. Milroy and Dr. J. A. Milroy showed Microscopical Preparations of the Nervous System.—Professor T. Sinclair showed a series of large Vesical Calculi, a series of Gall-stones, a Cystic Kidney, a Pancreatic Cyst, Cancer of the Sigmoid, and Cancer of the Rectum.—Dr. Howard Stevenson showed a specimen of Tuberculosis of a Horse-shoe Kidney.—Dr. J. W. Browne showed a Duct Cancer of the Breast.—Sir John Byers showed an Ovarian Tumour removed during Pregnancy, an Ovarian Tumour removed from a patient aged 80 years, a Tubal Abortion, and several other gynæcological specimens.—Sir John Byers and Dr. W. J. Wilson showed a Syphilitic Fœtus with well-marked Wegner's osteochondritis occurring at the epiphyseal borders of the hollow bones. The woman who gave birth to the fœtus at the maternity was covered with rupia spots.—Dr. G. A. Hicks showed three Uteri removed for uncontrollable hæmorrhage with polypoid endometritis, submucous myoma of the fundus, and carcinoma of the fundus.—Dr. H. Hanna showed an Intraocular Tumour, Cancer of the Larynx, and a Lacerated Eyeball with a large foreign body.—Mr. A. Fullerton showed a Gall-bladder with stones *in situ*.—Mr. R. J. Johnstone showed a large Myoma (undergoing submucous degeneration) springing from the cervix.—Mr. Robert Campbell showed an enormously thickened Parietal Pleura excised, a Gall-bladder with a Stone blocking the Cystic Duct, and a Gall-bladder completely filled by Stones.—

He described a series of experiments in which a second dose of horse serum produced an alarming effect (high fever, œdema, and rashes) in guinea-pigs and even death in some cases, and also described cases of Scarlet Fever in which similar but less severe symptoms had followed a second dose of serum.—Dr. Wilson read a short paper on an Original Method of Isolating the Typhoid Bacillus most useful in the case of water. He also read a communication on the Investigation of the Blood in Typhus Fever, and showed that in 11 out of 17 cases examined Widal's reaction was present, so that culture experiments were necessary to make a diagnosis between typhus and enteric in reference to the organism in the blood.—Dr. T. Houston made a communication on the Further After-history of a Typhoid Carrier.—Dr. J. S. Dickey read a short paper on the Surface Relations of the Apex of the Lung, in which he showed that a careful examination of a series of cadavers demonstrated that the cervical portion of the lung was within the inner fourth of the clavicle.

LIVERPOOL MEDICAL INSTITUTION.—The last pathological meeting of the session of this society was held on April 1st, Mr. T. H. Bickerton, the President, being in the chair.—Dr. O. T. Williams showed Tubercle Bacilli from Cerebro-spinal Fluid.—Dr. R. W. McKenna exhibited specimens of Spirochæta Pallida.—Dr. E. E. Glynn showed: (1) A Gummatous Heart; and (2) a Cerebellar Cyst.—Dr. R. E. Harcourt and Dr. E. Stevenson exhibited: (1) Sarcoma of the Eye Growing from the Disc; and (2) Sarcoma of the Orbit.—Dr. J. Lloyd Roberts showed an Aneurysm of the Arch and Descending Part of the Thoracic Aorta.—Dr. A. Nimmo Walker read a note on the Application of Bacteriology to Eye Surgery. He described the methods of bacterial examination of the conjunctival sac in: (1) cases of purulent discharge; and (2) clean cases previous to operation. At St. Paul's Hospital this examination was the routine practice and he strongly emphasised the value and necessity of such. He illustrated his remarks by cases, films, and cultures.—Dr. Glynn read a note on Hepatic Cirrhosis with Adenomata and Carcinoma. A male, aged 49 years, died after eight months' illness. He had all the signs of cirrhosis, slight jaundice, and latterly the liver was enlarging. Post mortem the liver weighed 119 ounces and showed (1) multilobular cirrhosis of the right lobe, with circumscribed green "adenomata," and microscopically many bile-containing tubules, also diffuse white growths, resembling spheroidal-celled cancer, infiltrating the portal vein and causing [illegible]larged spleen; (2) there was marked compensatory hyper[illegible]phy of the left lobe, with a few "adenomata." There [illegible]re no growths in other organs.—Dr. J. Hill Abram and Dr. [illegible]. G. Gullan discussed the note, referring to three or four similar cases which they had met with. One of Dr. Abram's cases was associated with secondary growths in the anterior mediastinum.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on April 2nd, Dr. Leslie Durno, Vice-President, being in the chair.—Mr. J. Houston Porter showed two cases of Achondroplasia, the patients being brothers, aged 50 and 52 years respectively. They presented many of the characteristic features of achondroplasia—namely, marked micromelia, the shortness of the limbs affecting the upper segments more than the lower, as is usually the case, the upper arm and thigh being shorter in proportion than the forearm and leg. The affected long bones showed considerable exaggeration of the normal curves, this being well exemplified in radii and femora. The epiphyses were in nearly every case thickened and nodular, the result of excessive and irregular deposition of subperiosteal bone. The feet were small, owing to the shortness of metatarsals and phalanges, and square in shape. The gait was decidedly rolling and waddling. The skull was of the usual type found in these subjects. The bones of the vault, which were developed in membrane, were of at least average size and usual shape, while those of the base, which were developed in cartilage and underwent an early synostosis, were small. The face was thus in general outline triangular, the small lower jaw producing a pointed chin which formed the apex of the inverted triangle. Their father, grandfather, uncle, and another brother were similarly affected.—Mr. P. Maynard Heath showed a woman, aged 33 years, who six months ago had been operated on for chronic abscess of the left breast. Four months ago she developed a chronic induration of the skin of both breasts and upper arms which was thought to be probably myxœdematous.—Mr. Heath also showed a woman, aged 46 years, with fatty enlargement around the left elbow.—Dr. T. Galbraith read notes of a case of Atheroma of the Left Coronary Artery with fatal Angina Pectoris in a woman, aged 45 years.—Dr. L. U. Young related a case of Labour complicated by Uterine Fibroid in a primipara, aged 42 years. He also described a case of Puerperal Eclampsia in a primipara, aged 24 years, which he had successfully treated by saline transfusions, chloroform inhalations, and morphine injections.

Reviews and Notices of Books.

Guide to the Clinical Examination and Treatment of Sick Children. By JOHN THOMSON, M.D. Edin., F.R.C.P. Edin.; Physician to the Edinburgh Hospital for Sick Children; Joint Clinical Lecturer on Diseases of Children, University of Edinburgh; Honorary Member of the American Pediatric Society. Second edition, greatly enlarged and rewritten. With 160 illustrations. London and Edinburgh: William Green and Sons. 1908. Pp. 629. Price 12*s.* 6*d.* net.

IT is a pleasure to review so thoroughly practical a work on the clinical aspects of disease in children as that written by Dr. John Thomson. It is the second edition of a book published ten years ago, but it has been more than doubled in size, although retaining the general character of the original edition. The most admirable feature is the clear and concise manner in which the special characteristics of disease in childhood are presented. The author obviously draws his descriptions from his own experience, while recognising and paying due attention to the work of others. The book is liberally illustrated, for the most part by reproductions of photographs of cases observed by the author himself, which serves to accentuate the personal note in the character of the book. The arrangement of the subject matter is also to be commended. The various diseases are not described according to any stereotyped plan, and the separate chapters are devoted to a consideration of the clinical phenomena to be observed in regard to a given system, or to a study of a special symptom, or of groups of symptoms, and of their significance in diagnosis. This method of treating the subject renders it more interesting and more instructive than a mere categorical enumeration of symptoms and physical signs.

The first chapter includes some useful hints on the manner of carrying out the routine examination of infants and children, and also some instructive examples and illustrations of the physiognomy of disease in these periods of life. [A useful chapter on dentition contains a well-balanced discussion of the part played by that process as a factor in the causation of disease. Dr. Thomson rightly considers that the wisest position to adopt is that of avoiding the extremes of opinion, according to which dentition is regarded, on the one hand, as the cause of a multitude of ills, or, on the other, as a purely physiological process never accompanied by unpleasant symptoms. Another subject which is dealt with in a critical and interesting manner is that of hypertrophic stenosis of the pylorus, or congenital spastic hypertrophy of the pylorus, as Dr. Thomson prefers to call it. This is a subject to which he has devoted special attention, and as he has personally observed 41 cases it is one on which he is entitled to write with authority. He gives the views of other observers and also that which he has put forward—viz., that the hypertrophy of the pyloric musculature is the result of overwork due to defective coördination. He also discusses at some length the treatment, both surgical and medical. The "mucous disease" of Dr. Eustace Smith is described under the name of chronic intestinal indigestion, and Dr.

Thomson gives detailed instructions for the dieting and treatment of this somewhat indefinite condition. He deprecates the common practice of giving cod-liver oil, ferruginous tonics, and excess of farinaceous foods to children suffering from this condition on the supposition that they are suffering from "debility." We may mention as specially interesting the chapters on jaundice, on some diseases of the blood and blood-forming organs, on mental defect, and that on rickets and certain other diseases affecting the bones. In the chapter on certain respiratory diseases the accounts given of the physical signs and symptoms are less complete than might be expected, notably in regard to empyema. In the preface Dr. Thomson states that he has not confined his attention entirely to common ailments, but has been guided in the choice of subjects by his own experience and predilections. Some of the most interesting and instructive parts of the book are those dealing with more or less uncommon malformations or diseases; among these we may mention "congenital unilateral pectoral defects" and Hirschsprung's disease. The important practical questions of infant feeding, nursery hygiene, and general therapeutics each have a special chapter devoted to them, and in these will be found many valuable hints the outcome of personal experience.

The scope of the book is avowedly clinical and therefore pathological questions are either omitted or very briefly noticed. The leading characteristic which makes this book so praiseworthy is the sound common sense which illuminates it throughout, and we can cordially recommend it to our readers as both interesting and helpful.

[illegible] Forty- [illegible]., 1908.

THE annual volume of the transactions of the American Ophthalmological Society always contains interesting and instructive matter. In the present one Dr. de Schweinitz and Dr. Holloway contribute an excellent paper on Five Cases of Sudden Obstruction of the Central Artery of the Retina, a condition usually less accurately described as embolism. Particularly noteworthy in these cases are the occurrence of central or paracentral scotomata and the preservation of some vision in the temporal part of the field. As regards the latter, in the particular case where it is described it appears to have been more central than in most of the other cases recorded elsewhere. An allied condition, embolism of a macular artery and thrombosis of superior and inferior retinal arteries in a case of embolic softening of the brain, is commented upon by Dr. Shoemaker. In this case a pathological examination of the eye was possible. Dr. Quackenboss and Dr. Verhoeff report a rare case of angioma of the orbit invading the globe along the ciliary nerves. Dr. Kipp adds cases of macular holes to the now considerable number already on record. Polycythæmia has recently attracted attention in medical circles. Dr. Tyson has added to the scanty [illegible] of a cas [illegible] tubercu [illegible] cutaneous reaction of von Pirquet are worthy of special attention at the present time; they have led him to conclude that phlyctenular conjunctivitis is tuberculous. Interstitial keratitis in acquired syphilis is by no means so rare as has been thought; the subject is discussed in all its bearings by Dr. John T. Carpenter. Major Henry Smith, I.M.S., contributes a paper on his now well-known method of extracting immature cataract in its capsule; the discussion which ensued is a familiar example of the difference of opinion which exists on the matter. Space does not permit of further reference to many other communications of interest. The volume is fully up to the average and m all ophthalmologists. Of still wider soci ance is the report of the committee neonatorum, presided over by Dr. Lucien Ho

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Archives of the Middlesex Hospital. Vol. XIII. The Seventh Report from the Cancer Research Laboratories. Edited for the Cancer Investigation Committee by W. S. LAZARUS-BARLOW, M.D. Cantab., F.R.C.P. Lond. London: Macmillan and Co. 1908. Pp. 208.

THIS volume opens with tabulated synopses of the post-mortem examinations and operations in cases of malignant disease in the Middlesex Hospital during the year 1907. In all 222 cases (males 64, females 158) were examined microscopically. Particulars are given of the nature of the new growth, the sites of secondary growth, and other morbid changes found in all fatal cases.

Dr. Victor Bonney describes a new and rapid triple stain, a modification of a process published by him in THE LANCET of Jan. 27th, 1906. The stains employed are methyl violet, pyronin, and orange-G. The same author contributes an important paper on the Connective Tissue in Carcinoma and in Certain Inflammatory States that Precede its Onset, which formed the subject of his Hunterian lectures.[1] Dr. Archibald Leitch records his observations on secondary malignant conversion of epithelium, as a result of which he concludes that "a carcinoma having once started from a definite focus can be added to by conversion of previously non-malignant epithelium *of the same kind* (1) in direct continuity with, (2) in immediate proximity to, and (3) within the sphere of influence of, the growing edge." Dr. L. Courtauld and Dr. A. Leitch describe the occurrence of lumina in malignant tumours and regard them as capable of separation into three groups: first, those formed by cell necrosis; secondly, those formed by irregular cell proliferation; and thirdly, those representing pre-existing channels. Dr. Hector A. Colwell gives the results of some experiments on the action of thorium and uranium upon certain ferments. The emanations from radium have been shown to exert a destructive effect upon certain digestive ferments, and Dr. Colwell finds that thorium and uranium exert a similar effect. The same observer records a research to ascertain the effects of urinary and biliary calculi upon photographic plates in the dark. He finds that both of them produce definite shadows revealed by development, the effect of gall-stones being greater than that of vesical calculi. The shadow produced by gall-stones is larger than the area of the stone in contact with the plate, which is never the case with vesical calculi. The effect is not due to uric acid, urates, oxalates, phosphates, cholesterin, or pigment as such. Dr. W. S. Lazarus-Barlow describes the results of a similar research with animal tissues. He finds that the greatest photographic effect is produced by liver, brain, and kidney, while spleen and lung produce effects in only a minority of the cases, and then only effects of low values. The photographic value of the liver increases in both sexes from infancy to the age of 55 years; after that age it increases still further in males, but undergoes a great diminution in females. At all ages except those over 55 years the photographic value of the female liver is greater than that of the male. Carcinomatous and sarcomatous material, both primary and secondary, produce effects which are about as strong as that of liver, and the values of female tissues are greater than those of male. Dr. Lazarus-Barlow contributes a second paper, which forms a preliminary communication regarding an experimental inquiry into the nature of this property. It appears not to be due to protein, fat, cells, pigment, or blood as such, nor is it apparently due to the ordinary non-volatile inorganic constituents. It is different from the photographic properties manifested by recognised radio-active substances on the one hand and substances such as wood on the other, although it appears to have affinities with both.

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[1] THE LANCET, May 16th (p. 1389), 23rd (p 1465), and 30th, 1908 (p 1535), respectively

Mr. Cecil W. Rowntree, in a paper entitled a "Contribution to the Study of X Ray Carcinoma and the Conditions which Precede its Onset," gives brief details of five cases. He states that examination of the specimens showed them to be examples of typical squamous-cell carcinoma. Mr. Rowntree (whose Hunterian lecture on the same subject was published in our issue of March 20th), describes the results of the application of the rays to the human skin and to the tails of rats, and concludes that the application of the x rays to healthy tissues results in the stimulation of normal physiological processes—i.e., the growth of epithelial and other cellular elements; that a single large dose may result in an acute change resembling an ordinary burn or a destructive dermatitis; that administration for a long period ultimately results in complete atrophy of the epithelial elements and degenerative changes in the connective tissues; and that these changes ultimately lead to a state which disposes to the occurrence of carcinoma. Mr. Rowntree also describes a simple and ingenious form of apparatus for drawing from the microscope.

Dr. Lazarus-Barlow is to be congratulated on the good work represented by the researches carried out in his laboratory, all of which have for their object the acquisition of information in regard to the complex problems involved in the incidence and spread of cancer within the body, and although some of the work is highly technical in character and sometimes of little apparent utility it represents necessary pioneer labour in regard to some phase or other of this difficult subject.

Principles of Sewage Treatment. By Professor Dr. DUNBAR, Director of the Hamburg State Hygienic Institute. Translated with the author's sanction by H. T. CALVERT, M.Sc., Ph D., F.I.C. With 147 illustrations. London: Charles Griffin and Co. 1908. Pp. 271. Price 15s. net.

THE disposal of excreta, once an individual consideration, is now a collective one, and the fact that concentrated populations have to be dealt with renders a system necessary which embraces the problem of sewage disposal as a whole. It is not a little interesting to reflect that in spite of the enormous attention directed to the subject by chemists, biologists, engineers, and others, the outcome of their joint labours may indicate as a possible solution of the question a biological process—which in principle amounts to the simple method adopted by the individual before a water carriage system forced itself upon the attention of communities. The disposal of excreta by shallow burial in the earth amounted to the resolution of human filth by biological agencies, and a very satisfactory method it proved so long as the agencies were not overtaxed. With the introduction of the water-carriage system the problem of the disposal of large volumes of water contaminated with fæcal matters had to be faced. This was, and is still, *the* sewage problem. The water-carriage system succeeded well enough in removing human excreta away from the house and pouring it into channels remote from habitable places, and thus far satisfied a policy of "out of sight out of mind." But this meant a discharge of sewage into the rivers and it was soon found that sewage treated in this way was far from being "out of sight out of mind," for there became evident the very unwelcome and unpalatable fact that these rivers were being dangerously polluted, and were rapidly becoming a
menace to the people's water-supplies and to the pı
health in general. The problem of sewage disposal
soon resolved itself into the question of the prevention o
pollution of rivers which at first had been regarded as
venient channels of disposal, channels which could sustai
pollution on account of their self-purifying powers. Ri
no doubt, possess self-purifying powers, but the popula
of their banks have increased to such an extent in n
instances that the river has become a stinking sewer.
short, the introduction on a large scale of the water-c
not so many years ago soon placed a strain on our r
to which they were unequal, and sewage and fac
refuse combined to destroy the beauties of sylvan strean

The interesting story of how this spoliation
been checked, and how far further application
new and improved methods promises to bring back
rivers to their pristine beauty and cleanliness, is well
ably told in Professor Dunbar's work, for the excellent t
lation of which the thanks of all sanitarians are due t
H. T. Calvert, whose experiences as the chief chen
assistant to the West Riding of Yorkshire Rivers Board
specially well qualified him for the task. It is dou
whether the subject in both its historical aspects and i
relations to modern investigation has before rece
such thorough and comprehensive discussion. Pos
ing a sound acquaintance with chemical and bact
logical subjects, Professor Dunbar writes confidently
authoritatively on those problems connected with sev
disposal which involve the application of bacteriolo
and chemical principles. Nor has he confined his atten
merely to the troubles encountered in connexion with
attempted application of these principles to sewage work
his own country, but gives also an interesting and
prehensive account of the experiences of other countries w
a solution of the problem is equally urgent. In partic
we may observe that the last chapter on the utility and
of the various methods of sewage treatment shoul
invaluable to the officers of sanitary corporations who
at heart the needs of their own districts and who
anxious to meet these needs in the most efficient
economical way. We heartily commend the book a
peculiarly fair and impartial statement of the present p
tion of the sewage problem.

Leçons Élémentaires de Microbiologie Générale. Par M. E
POZZI-ESCOT, Professeur de Chimie et de Microbiolog
l'École Nationale d'Agriculture et de Médecine Vétérin
de Pérou; Laureat, Medaille d'Or de l'Association
Chimistes de Distillerie de France et des Colon
Paris: Jules Rousset. 1909. Pp. 366. Price 9 franc

THE author of this work considers, and we think righ
considers, that the science of microbiology is one in
principles and in its general laws, quite irrespective
the many various fields of study into which, in
practical applications, it may extend. Professor Poz
Escot holds, therefore, that a general course of bacter
logy, in which the fundamental principles of the scien
are developed, should be equally suitable for the educ
tion of the physician, the veterinary surgeon, or t
agriculturist. The present book embodies these views, a
consequently, though it is founded upon lectures delivered
the National School of Agriculture and Veterinary Medici
of Peru, yet it is only in the choice of certain illustrati
examples of the practical applications of the theoretic
principles taught that the special nature of the course
shown or that there is any exact adaptation to the needs o
the veterinary or agricultural student. This book therefor
differs widely from the usual manuals of bacteriolog
intended for the medical student, as may be seen by the

fact that the special descriptions of the pathogenic microorganisms, which usually constitute the bulk of such works, are disposed of in some four or five pages. The subject is viewed from the standpoint of the chemist and not from that of the pathologist, and the influence of the late Professor Duclaux seems to have strongly affected the style and method of treatment of the subject. The author explains everything, including the life of the cell itself, on purely chemical grounds, or at any rate as the result of purely chemical and physical forces, and this conception tinges the teaching of the whole book. Pathogenic action is regarded as a function of toxin production, and no essential difference is recognised, so far as pathogenesis is concerned, between those organisms which produce extracellular and those which produce intracellular toxins. A glance over the table of contents, which, unfortunately, as in so many French works, is made to take the place of an index, does not show the essential difference between the book and others of the more usual type the regular chapters on the biology and physiology of microbes, on microscopic and cultural technique, on diastases, toxins, antibodies, on theories of immunity, are to be found, but these subjects are all treated on the principle enunciated above. The chemical views of Ehrlich are naturally welcome, but the French influence prevents any neglect of the cellular theories of immunity.

In the later part of the book (Chapter IX. *et seq.*) a more detailed account of industrial, and especially alcoholic, fermentation is given, and finally a short account of the chemical changes produced by organisms in the soil. The book is illustrated by woodcuts, many of which seem to be reproductions of rough pen drawings which contrast with the usual process reproduction of photographs. The subject is treated with the clearness of thought and style which we are accustomed to associate with French literature. The paper, type, and binding are creditable to the publisher.

LIBRARY TABLE.

Dreschfeld Memorial Volume, containing an Account of the Life, Work, and Writings of the late Julius Dreschfeld, M.D., F.R.C.P., with a Series of Original Articles Dedicated to his Memory by Colleagues in the University of Manchester and Former Pupils. Edited by E. M. BROCKBANK, M.D. Vict., F.R.C.P. Lond. Manchester: at the University Press. 1908. Pp. 246. Price 10*s.* 6*d.* net.—The custom of honouring men of mark by the publication of volumes of scientific papers dedicated to them, whether it be on the occasion of some anniversary in their lives or as a posthumous tribute of respect, is one which has much to commend it. The volume before us worthily carries out the principle involved, containing, as it does, much valuable work which if it do not ultimately prove "ære perennius" is yet well calculated to do honour to a lamented teacher. The contents of the book have already appeared in the Memorial Numbers of the *Medical Chronicle* and have been noticed in our columns; they need not, therefore, be here enumerated. The preliminary memoir gives a good account of the late Professor Dreschfeld and is followed by a list of his medical writings amounting to over 100 in all. In him Manchester has lost a skilled physician, a diligent worker in the field of medical science, and a valuable teacher.

Compte Rendu des Travaux du Ier Congrès International de Psychiatrie, de Neurologie, de Psychologie et de l'Assistance des Aliénés, tenu à Amsterdam du 2 à 7 Septembre, 1907. Rédigé par le Dr. A. M. VAN WAYENBURG, Secrétaire Général du Congrès. Amsterdam: J. H. de Bussy. Pp. 934.—The proceedings of this Congress are divided into three parts. The first section is concerned with Psychiatry and Neurology, the second with Psychology and Psychophysics, and the third with the Care of the Insane. The id national congress of this character appears to mooted at the Netherlands Society of P *Neurology and to have been the offspring of an op* such a congress would be in the interest of the development of our knowledge of the life of the nervous system of man in all its manifestations. It was hoped that it might lead to an exchange of views and opinions at greater length and with greater facility than is possible in the more narrow limits of a section of a general medical congress. The proceedings before us afford ample testimony that the hopes of those who initiated the Congress have had a satisfactory fulfilment. The value of the several communications necessarily varies but a high standard has throughout been maintained, and we would mention as of special interest Professor van Gehuchten's paper upon Le Mécanisme des Mouvements Réflexes; Professor Dupré's paper upon the Diagnose Différentielle entre la Démence Paralytique et les autres Formes de Démence Acquise; Dr. M. M. A. Marie and Dr. *Viollet's Argument en faveur de l'Origine Syphilitique de la* Paralysie Générale; the papers contributed by Professor Arnold Pick, Professor von Monakow, Professor Liepmann, and Professor Hartmann upon Asymbolie, Apraxie, Aphasie; and lastly, the paper of Dr. A. Marro upon the Psychologie de la Puberté. We congratulate Dr. van Wayenburg upon the successful issue of his secretarial duties.

Medical Reports of the Central London Throat and Ear Hospital. Vol. I. London: Adlard and Son. Pp. 134. 1908. Price 5*s.*—This volume contains the following articles: the Retention of the Matrix in Operations for Cholesteatoma of the Middle-ear, and Cases Illustrating the Operative Treatment of Septic Lateral Sinus Phlebitis without Ligature of the Jugular Vein, by Dr. J. Dundas Grant; Remarks on Mastoid Operations, by Dr. Percy S. Jakins; the Operative Treatment of Nasal Sinus Suppuration, by Mr. W. J. Chichele Nourse; Clinical Cases, by Dr. P. H. Abercrombie; Cranial Complications of Otitic Origin, by Mr. W. Stuart-Low; Notes on Cases of Malignant Disease of Pharynx and Larynx, by Dr. A. Wylie; Brief Notes of Cases of Interest, by Dr. J. Atkinson; Adenoids, &c., by Dr. D. McKenzie; a Review of 30,000 Administrations of Anæsthetics for Operations on Throat and Nose, by Dr. A. B. Kingsford; and Pathological Reports, by Dr. V. H. W. Wingrave. From the above list it is evident that there is no tabular statement of cases seen during the 30 odd years which have elapsed since the opening of this hospital and the issue of Volume I. of the Reports. These may possibly be issued in a future number.

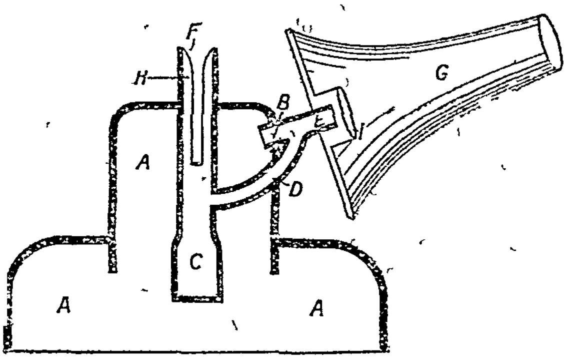
JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XXXVIII., No. 4, March 22nd, 1909. London: Cambridge University Press Warehouse. Price 6*s.* 6*d.*—The contents of this number are as follows: 1. The Transformations in the Phosphorus Compounds in the Hen's Egg during Development, by R. H. Aders Plimmer and F. H. Scott. 2. The Optical Properties of the Contractile Elements in Heliozoa, by Doris L. Mackinnon, B.Sc., Carnegie Scholar (1907-08). 3. Further Note on Adrenalin Isomers, by Arthur R. Cushny, from the pharmacological laboratory, University College, London. 4. The Natural Channels of Absorption evoking the Chemical Mechanism of Gastric Secretion, by J. S. Edkins and M. Tweedy, from the physiological laboratories of Bedford College and St. Bartholomew's Hospital. 5. Axon Bifurcation in Regenerated Nerves, Part II., by W. A. Osborne and Basil Kilvington, from the physiological laboratory, University of Melbourne. 6. Fatty Infiltration of the Liver in unger, by V. H. Mottram, Fellow of Trinity College, Cambridge, Plates 2 and 3, from the physiological laboratories of ambridge and Munich. 7. The Mode of Action of Specific ubstances, with Special Reference to Secretin, by W. E. ixon and P. H. A. Mill, from the pharmacological laboratory, Cambridge. 8. The Pressor Principles of Placental Extracts, by Otto Rosenheim, from the physiological laboratory, King's College, London. 9. Isolation of the Pressor rinciples of *Putrid Meat*, by G. Barger and G. S. Walpole, rom the Wellcome physiological laboratories, London. This number contains also the Proceedings of the Physiological ociety for Feb. 27th, 1909.

New Inventions.

AN IMPROVED INHALATION AND DISINFECTION APPARATUS.

THIS invention is designed to afford an improved apparatus for impregnating air with drugs and for inhalation purposes. The ordinary spray apparatus, such as the nebuliser, do not effectively answer their purpose, because the substances used in them, however minutely divided, are yet, taken in the aggregate, necessarily delivered in the form of drops of liquid so used. Again, the drug used does not reach the whole of the lung substance, a great deal of it settling in the bronchi and upper portions of the lung. This apparatus, which is shown in section in the figure, consists of a boiler, A, having a nozzle outlet, B, and a receptacle, C, in which the substance is volatilised and which is contained within the boiler but does not directly communicate with it. This receptacle has an air inlet and a nozzle outlet, D, located in apposition with the boiler outlet in such a manner that the steam issuing from the latter sucks up the vapour of the substance under volatilisation contained in the receptacle and carries it off with it. The two outlet pipes join at their distal extremities into a short broader tube and consequently end in one common nozzle, E. The steam pipe, which is uppermost, is short and straight, whilst the lower vapour pipe is broader, longer, and curved. The vapour arising from the drugs in the receptacle is assisted in its exit (1) mainly by the pressure of the current of fresh air entering through the funnel-shaped opening in the cap, F, of the tube, so that the drug vapour is kept constantly escaping and is being as rapidly replaced by fresh air; (2) also to some extent by the suction-like action exerted by the steam as it issues from the boiler tube and passes over the point of exit of the vapour tube; and (3) to some extent by the pressure of the vapour itself. The steam becomes saturated with the vapour of the drug or drugs used and is distributed through the glass trumpet G, the smaller end of the trumpet being employed for inhalation and the larger end for disinfecting purposes or for impregnating the air of the room. The said trumpet is supported upon a perforated circular platform, which is fixed in position by means of a wire loop surrounding the upper extremity of the tube H and carries four clips and a central raised ring so arranged as to support the trumpet in either [illegible] amount of water required for the boiler [illegible] measure which accompanies the appara[illegible] is also a small spoon for the drug. Except for the glass funnel, the whole apparatus, which is six inches in height, is made in white polished metal. The boiler stands upon a tripod, beneath which is a small metal spirit lamp. These are not shown in the figure.



The advantages claimed for this apparatus may be briefly summed up as follows. 1. It is compact, light, and very simple to operate. 2 The steam and vapour are both driven through a common nozzle instead of through two separate nozzles, thereby making the intermixing absolute and insuring a more concentrated vapour. 3. Disinfectants used in a vaporous condition have a much more beneficial effect than when used in [illegible] and the apparatus fully vaporises the d[illegible] 4. The drug or drugs used are quite [illegible] our or the water in the boiler. 5. The consumption of the drug is very economical. 6. The drugs used may be in the solid, liquid, or crystalline form. 7. The vapour arising from the drug or drugs is so intimately intermixed with the steam that when inhaled it perfectly penetrates every portion of the lung. By the use of this apparatus the vapour, whether inhaled directly from the tube or indirectly through the air of the room, will reach every part of the lung, even the pulmonary alveoli. 8. The apparatus may be set working in a room a quarter of an hour or so previously to a patient going to bed, so that the patient will be breathing an atmosphere saturated with the drug; this is most useful and beneficial in cases of pulmonary tuberculosis, asthma, and chronic bronchitis.

The apparatus will be found useful in the treatment of rhinitis, pharyngitis, tonsillitis, laryngitis, asthma, emphysema, phthisis, hay fever, gangrene of the lung, whooping-cough, and other respiratory diseases The following are examples of substances that can be used for evaporisation or volatilisation in the receptacle: menthol, eucalyptus, carbolic acid, lysol, thymol, mercury, creosote, terebene, stramonium, lobelia, or any combination of these drugs.

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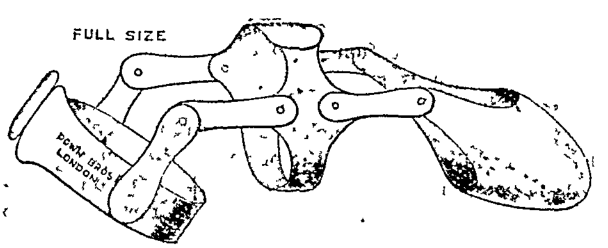
Brighton.

METAL FINGER-GUARD FOR USE AS DIRECTOR.

SOMETIMES during surgical operations it is very convenient to cut down upon the finger as a guide. When, for instance, in a septic peritonitis following perforated gastric ulcer it is desirable to drain the loins or pelvis the most convenient way of making a counter opening is to cut down from without upon the forefinger inserted in the original wound, because the finger can feel whether anything is in the way or not. If an instrument is inserted for this purpose it may easily involve a piece of intestine in the counter-opening. But if the gloved finger be used unguarded counter puncture has to be made carefully and deliberately lest the glove and, more serious still, the finger of the surgeon beneath it be cut. Again, a large abscess may be pointing and be opened in front of the thigh It is desired after opening it to make counter punctures for better drainage at the sides. The finger is again the most convenient guide, because it can feel exactly the most dependent point of the abscess cavity. Examples could easily be multiplied and will occur to every surgeon. To protect the finger when thus used as a director I have had the finger guard, as depicted in the accompanying illustration, made for me by Messrs Down Bros., and have found it very useful. It allows of as free flexion of the finger as if the latter were unguarded and it can be cut down upon straight away. When used inside the abdomen the forefinger, encased in the finger guard, and the middle finger are inserted together. The latter feels that nothing is in the way, and the guarded forefinger is then cut down upon at once with a single stroke of the knife. The instrument should be made to fit the finger of the surgeon using it.



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THE LANCET.

LONDON: SATURDAY, APRIL 10, 1909.

An Imperial Bureau of Anthropology.

MOST of our readers, and especially anyone who has observed the success which has attended the foundation of schools of tropical medicine in this country, will appreciate the efforts now being made by leading British anthropologists to establish an Imperial Bureau of Anthropology. Schools of tropical medicine confer a double benefit; they not only fit medical men to begin work at once in a new sphere of disease, but they have also been the direct means of a rapid advance and wide diffusion of useful knowledge and fresh discovery. By the foundation of an Imperial Bureau of Anthropology it is hoped that those who enter the Indian, Colonial, Egyptian, or Consular services, whether in political or medical capacity, may have opportunities of preparing themselves for their new conditions of life and work similar to those at present enjoyed by medical men proceeding on tropical service. At such a bureau the newly appointed medical officer, even if delegated to a remote tribe or people, would find, as would the political cadet, all that is known of the language, laws, religion, customs, commerce, physical characters, and diseases of the population whose affairs have to be administered, and would also receive instruction as to the best means of increasing by further observation the available stock of knowledge. Never before in any period of the world's history has a nation possessed our present opportunities of gathering up and systematising the tangle of facts and guesses relating to the physique, the lives, and the habits of primitive races. That is the task which the founders of the Imperial Bureau have set before them, but so far they have failed to obtain official recognition.

A few weeks ago a deputation consisting of Professor WILLIAM RIDGEWAY, professor of archæology in the University of Cambridge and President of the Royal Anthropological Institute of Great Britain and Ireland; Sir RICHARD TEMPLE, who has been, like his famous father and namesake, a highly distinguished Indian official and who is also an authority on Indian ethnology; Sir EDWARD T. CANDY, late a judge of the Indian High Court; Sir HARRY JOHNSTON, of Uganda fame and a trustee of the Hunterian Museum; Mr. S. H. BUTCHER, M.P.; Mr. HART DAVIES, M.P., and other men of high standing, waited on the PRIME MINISTER and presented a memorial urging the Government to establish such a bureau. All they asked for by way of a commencement was official recognition and the modest annual subsidy of £500, the Royal Anthropological Institute offering to supply the necessary accommodation and library. The PRIME MINISTER's reply was unfavourable, and also, in our opinion, not wholly just. While admitting "that anthropology was not only an important but an indispensable branch of knowledge, not merely for scholars but for persons who were going to undertake in an Empire like ours—whether in India or the Crown colonies—the work of administration," he held out no hope of financial support because "there were 50 or 100—certainly 50—institutions and societies all carrying on most excellent work and founded on a voluntary basis, and all of which could contend with great plausibility that their efficiency and comfort and convenience would be greatly increased if an annual subvention were granted to them." For the excellent service it offered to undertake the deputation was turned away not only empty-handed but with the suggestion that it had sought help under false pretences. It is not necessary to guess what would have happened to such a deputation in Germany or France: its beneficent objects would have been perceived, and sympathy certainly, and probably a subsidy would have been offered at once. Too often the methods of foreign governments are cited as the standard which our statesmen should copy, and those who protest in their patriotism that they are a little tired of such futile comparisons are often justified. But in scientific affairs, as in education of a technical character, our insular way, which has always been to depend on voluntary effort, implies, we think, too great a reliance on the generosity and sagacity of a few. The Imperial Bureau of Anthropology will succeed in all probability through the work of enthusiastic individuals, and the government of the country will reap all the benefit without taking any of the responsibility. We are glad to learn from private sources of information that officials who stand high in the Indian and Colonial administrations are warm advocates of the scheme and are likely to afford it official and financial support. Germany, we believe, spends about £10,000 a year in having the work done which the Imperial bureau has vainly offered to do for exactly 5 per cent. of that sum. It is, however, to the much and perhaps in some respects justly abused Belgium administration of the Congo Free State that we must turn to see an Imperial Bureau of Anthropology really at work. The Belgian Minister of Education is its official head. At the present time it is issuing a series of ethnological monographs on the various tribes which inhabit that vast state. The monograph on the Basongo tribe, issued in 1908, runs into 557 pages. It commences with a general introduction to the present-day knowledge of the tribe and of the Europeans who discovered and described them; then follows a complete list of the literature dealing with the tribe; all that is known concerning the geography of their country, of their psychology, physique, dress, food, houses, villages, occupation (hunting, fishing, agriculture, pottery, carving), religion, fetichism, language, amusements, society, laws, government, marriage, and diseases. The knowledge thus codified is not only of great service to those whose special study is primitive man but of even greater value to the young official when he first sets foot on tropical soil. In support of this fact we cannot do better than quote Professor RIDGEWAY's words when introducing the deputation whose objects failed to appeal to the PRIME MINISTER.

"Several of our most distinguished Indian and Colonial administrators have pointed out that most of the mistakes made by British officials are due to their ignorance of the habits and customs of the natives. It has been in the past an axiom of British politicians that in the English constitution and in English law there is a panacea for every political and social difficulty in any race under the sun. The fundamental error in this doctrine is the assumption that a political and legal system evolved during many centuries amongst a people of North-western Europe largely Teutonic, and that, too, living, not on the mainland, but on an island, can be applied cut and dried to a people evolved during countless generations in tropical or subtropical regions with social institutions and religious ideas widely different from those of even South Europeans and still more so from those of Northern Europe. We might just as well ask the Ethiopian to change his skin as to change radically his social and religious ideas." This is the voice of a statesman.

The institution of an Imperial Bureau of Anthropology is a matter of particular importance to medical men. How many there are now abroad amongst subject and native races who would willingly carry out a series of most useful observations if only they knew in what direction they should turn their spare energies and interests. How many there are now returned home who recognise the opportunities they missed because they did not have the key to the various customs and practices they saw amongst the natives around them, or because they believed that all they saw was already well known. None are so well qualified from their education and none have so many opportunities [illegible] making anthropological observations as medical men. To them an Imperial bureau would be of the greatest utility. The interest of medical men will be the more readily enlisted in the scheme of such a bureau, seeing that it is intended, not only to embrace a study of primitive races, but to collect and systematise all pertaining to the physical constitution of the British race both at home and abroad. The question as to whether or not physical deterioration of the race is taking place has still to be answered. All at present is guess-work. A physical census of the present generation must be made to obtain a basis by which future observations may be measured. The medical examination of school children, which Mr. ASQUITH estimates must cost the country £260,000 per annum, will provide most useful data for this purpose. But the necessity of a census of the national physique will not thereby be rendered less urgent. The Universities of Cambridge and Oxford have established boards of anthropological studies, with the power of granting diplomas to those who have qualified by studies under their direction in prehistoric and historic anthropology and ethnology (including sociology and comparative religion, physical anthropology, and psychological anthropology). While the students at Oxford and Cambridge are thus provided for, no opportunities are given to students in London. Yet in London the means for study are perhaps the finest in the world. The collections in the British Museum and in the Museum of the Royal College of Surgeons of England, the libraries of the Royal Anthropological Institute and Geographical Society provide all that is needed, and more, for the education of students of anthropology. It was hoped by many that the University of London would establish a board of studies similar to that of the older universities, but when the attempt was made some years ago the board which resulted was not one in anthropology but one which has failed to attract London students—viz., the board of human anatomy and morphology. It is proposed that the Imperial Bureau of Anthropology should be empowered to grant diplomas to its students—a boon which would be appreciated by students not only in London but throughout the country and colonies.

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The Vaccine Treatment of Acne.

MANY of the diseases of the skin are especially suitable for the accurate estimation of the value of new methods of treatment, for the daily variations are open to examination Should the inflammation increase, the fact is at once patent, for the redness and the dilated vessels are visible, and there is no need to employ physical methods to ascertain the fact; on the other hand, should the inflammation subside, the diminution of the vascular supply of the part is at once evident. Even the amount and character of the exudates from the vessels of the skin can be appreciated in a way impossible with diseases of other and deeper structures. One of the newest and most valuable methods of combating microbial disease is by the administration of vaccines, and some of the diseases of the skin have proved very amenable to this mode of treatment. The vaccine treatment has yet another value; it may serve to determine etiological questions. If a patient is suffering from a disease in which the presence of a micro-organism has been detected, the effect of the employment of a vaccine may suffice to determine whether that micro-organism has or has not a share in the production of the disease. Moreover, when two, organisms are found to be present in many cases of an affection, the administration of a vaccine prepared from one or other of these microbes may indicate the relative importance of the two microbes as etiological factors.

In the present issue of THE LANCET appears a paper by Dr. ALEXANDER FLEMING, of St. Mary's Hospital, on the Etiology of Acne Vulgaris and its Treatment by Vaccines. The cause of acne has been discussed for many years, but without the formation of any very definite ideas as to its real mode of production; it is sufficient to read the long list of causes mentioned in most of the text-books to recognise that the essential cause is not among them, although and doubtlessly each of them may occur in one way or another as an etiological factor. UNNA in 1893 was the first to demonstrate a special bacillus in cases of acne and he named it the acne bacillus. He found it constantly present in sections and smears of comedones and acne pustules; moreover, it was the only organism which could always be found, and it was present in greatest number in the deeper parts of the comedo. Four years later SABOURAUD described the bacillus as occurring in sebaceous plugs of seborrhœic skins, and he claimed that it was the cause of seborrhœa and of alopecia areata. It is probable that this inclusion of alopecia areata in the effects of Sabouraud's bacillus retarded the recognition of its etiological value in seborrhœa and acne, for the clinical characters of alopecia areata are sufficient to exclude it from a group containing the two other diseases. The general feeling among dermatologists with regard to Sabouraud's bacillus was that, though it was possible that it was the cause of seborrhœa, it was not proved that it had anything to do with alopecia areata or with acne. In 1899 GILCHRIST of Baltimore described a bacillus constantly found in acne, and in one-third of the cases it was obtainable in a pure culture from acne lesions. He named the organism "bacillus acnes," and looked upon it as differing from Unna's bacillus, but most of those who have examined the question agree in thinking that Gilchrist's bacillus acnes is identical with Unna's acne bacillus and with the bacillus described by SABOURAUD. The absolute regularity with which the bacillus can be found in cases of acne vulgaris suggests an etiological relationship between them, but mere coincidence of occurrence cannot prove that the bacillus is the cause of the disease. However, the opinion is distinctly gaining ground that the bacillus is the *causa causans* of acne, although there may be other etiological factors. A further problem awaits solution. Even if it be admitted that the acne bacillus gives rise to the comedo, is it also the cause of the pustules which are the almost invariable accompaniment of a case of acne? Can the acne bacillus cause suppuration by its own unaided efforts, or does it need to invoke the aid of ordinary pyogenic organisms to give rise to acne pustules? Opinions differ. UNNA considered that the bacillus was the cause of the pustules, for in his opinion the histological characters of the pustules differed from those found in ordinary staphylococcic pustules. SABOURAUD thought that the suppuration was due to a secondary infection with pyogenic organisms. GILCHRIST found that even from the pustules a pure culture of the bacillus acnes could be obtained in a good proportion of the cases examined, and therefore he considered that the pustules as well as the other lesions of acne were caused by the bacillus. WHITFIELD from his own researches concluded that the comedo is caused by the acne bacillus, but he looked upon the pustule as due to a secondary staphylococcic infection. In this position the matter rested; without some fresh light, some fresh method of investigation, it seemed to be impossible to give a decisive answer to either question: first, whether the acne bacillus causes the comedo, and secondly, if it does cause the comedo, does it also cause the pustule?

The answer to these questions may be supplied by the vaccine method of treatment, and, if so, it is to be found in Dr. FLEMING'S paper to which we have already referred. In the first place, he concurs in the almost invariable existence of the bacilli in the comedones, and he finds that they are also almost always present in the pustules. The bacilli grow with difficulty on artificial media, but in many cases a pure culture was obtained by Dr. FLEMING even from the pustules. So much for the constancy of the organism. A pure culture of the bacillus proved capable of producing a folliculitis on the forearm of a susceptible person. In five days definite pustules appeared, and when the pus from them was examined only the acne bacillus could be seen. Further evidence is to be found in the fact that the serum of patients afflicted with acne agglutinates the bacillus in some cases. Sir ALMROTH WRIGHT showed in 1902 that carefully prepared vaccines derived from the infecting organisms produce a definite beneficial effect. Dr. FLEMING'S chief contribution to this important subject is the showing that a vaccine prepared from the acne bacillus alone, or in certain cases in combination with a staphylococcus, is capable of effecting a remarkable improvement in the condition. In most cases of acne a stock vaccine of the acne bacillus gives extraordinary results when employed in suitable doses; an excessive dose is followed by a negative phase and the outbreak of a fresh crop of pustules; when the dose is reduced sufficiently improvement follows. In some cases it appears to be necessary to prepare a vaccine from the acne bacillus present in the individual patient, but this is exceptional. From a consideration of these facts, described in detail in Dr. FLEMING'S paper, we are justified in concluding that the acne bacillus is the essential causative factor in acne vulgaris, and that by its own unaided efforts it is capable of producing a pustular eruption, but that in some cases the suppuration may also be caused by a secondary staphylococci infection. The investigation conducted by Dr. FLEMING is very complete, and in our opinion practically settles a question which has for many years disturbed the dermatological world.

Immunity and Immunisation.

"THE physician of the future will be an immunisator." Such is the text or quotation—perhaps in accordance with the fashionable terminology of the day we ought to say "auto-quotation"—which adorns the title page of the newly issued volume of collected studies by Sir A. E. WRIGHT and his fellow workers in the field of immunity,[1] the appearance of which may serve as an occasion for reviewing the progress made in recent years in our knowledge of the mechanism of resistance to infective disease and of the therapeutic measures founded upon it. In one sense, indeed, the statement quoted above is but a truism, for the more we learn that diseases are due to the action of invading germs, the more it necessarily follows that the labours of the physician must be directed to strengthening the resistance of the body against these parasites; and whether he pursue this end by rest and careful dieting or by the methods more recently introduced for directly stimulating the defensive mechanism he is equally an immunisator or cultivator of resisting power. But we shall not be mistaking the meaning of the distinguished editor of the work in question if we take his dictum in the narrower sense that the physician of the future will operate mainly by means of vaccines and allied remedies. It is therefore to this aspect of the question that our attention must be directed.

Our knowledge of the means by which the body resists the attacks of parasitic germs was inaugurated by the work of METCHNIKOFF on the phagocytic powers of the leucocytes, work which gave rise at first to very lively controversy. The discovery made by BEHRING, ROUX, and KITASATO that the poisons of certain bacteria are neutralised in the body by antagonistic bodies elaborated in response to their action, and the observations of PFEIFFER and others on the destruction of pathogenic germs by means of the serum of the blood, seemed for a time to throw the phenomena of phagocytosis into the background, but recent investigations have once more brought METCHNIKOFF'S views into prominence. The discoveries of the French school that the serum in some way facilitates the process of phagocytosis have been extended by the fascinating researches of Sir A. E. WRIGHT, who has given to these properties not only a local habitation in certain hypothetical bodies but has also bestowed on the latter the attractive name of opsonins. Thus, while in the case of certain germs, of which those of diphtheria and tetanus are the types, the main resistance of the body is effected by antitoxins, and in a few other instances, notably in the case of the bacilli of cholera and enteric fever, destruction of the parasites is effected mainly by substances which directly destroy the organisms, in a large number of cases immunity appears to be due in great part to the interaction of serum and leucocytes, the former in some way preparing the bacteria for ingestion by the latter. Such is the mode of resistance, so far as is at present known, to the staphylococci and allied germs, to the bacillus of tuberculosis, and to many other pathogenic organisms. In enumerating, however, the antitoxins, opsonins, and bacteriolysins of the blood we have probably not exhausted the number of bodies which take part in immunity. If we disregard the agglutinins, which probably take some part in the process of destruction of bacteria, we can yet hardly doubt that, at all events in the case of those germs which give rise to a local form of disease, the cells of the tissues themselves take part in the process of resistance, while some of the endothelial cells appear to possess powers of acting as phagocytes. Of the factor of cellular resistance it would seem that little or nothing is at present known. A still different property of the serum to which attention has recently been directed in our columns by Dr. F. L. GOLLA[2] is its power of inhibiting the action of trypsin. It is too soon, however, to speculate far as to the possible influence of this property in producing immunity.

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[1] Studies on Immunisation and their Application *to the* Diagnosis and Treatment of Bacterial Infections. By Sir A. E. Wright, M.D., F.R.S., Director of the Department for Therapeutic Immunisation, St. Mary's Hospital, &c. London: A. Constable and Co., Limited. 1909. Pp. 490. Price 16*s*. net.

With regard to the other bodies mentioned—hypothetical bodies, it is true, since no one of them has ever been isolated, though we know that some of them can be precipitated along with certain of the albuminous constituents of the blood—they are either naturally present in the serum or are poured into it in response to the action of the parasites and their poisons. It is upon this last phenomenon that modern methods of immunising treatment are based, since it is possible by injecting harmless doses of dead germs or of their toxins to increase the quantity of immunising bodies present in a living animal, and thereby to create an artificial resistance which may serve either as a prophylactic against the attack of the parasite in question or may enable the body when already infected to contend successfully with the invaders. The results obtained in some directions are most encouraging. In cases of local affection due to staphylococci a very useful weapon has been added to our armoury, and in tuberculosis marked good may be done in suitable cases by means of the various forms of tuberculin.[3] In other chronic infections we may reasonably hope that equally important results will be obtained. But the question of the value of vaccines in acute infective diseases is also one of great interest. It would seem at first sight that when the pathogenic bacteria have invaded the blood stream and have thus been spread throughout the whole system it would be worse than useless to inoculate an additional dose of the causal organism. On the other hand, it has been suggested that the blood stream is not a favourable medium for the formation of antibodies, and that the introduction of a dead culture into the subcutaneous tissue and thereby into the lymphatic spaces may give rise to increased resisting powers. On this point the evidence is not at present complete, but attempts have been made both in enteric fever and in pneumonia to influence the course of the disease by this means and some favourable results are recorded.

No part of Sir A. E. WRIGHT'S work has been more interesting than that connected with the attempt to measure the degree of immunity existing in a patient by an estimation of the opsonin-content of the blood serum. A most important change in procedure, fraught with benefit to innumerable patients, has resulted from this study—namely, the use of much smaller doses of tuberculin than had previously been employed, as Dr. A. J. LANDMAN points out in another column this week. The right value of a remedy which had fallen into undeserved disrepute owing to mistakes in the mode of its administration has now been established, and the prospects of relief or cure in suitable cases are definitely increased. Whether the opsonin-content can in reality be held to constitute a true measure of the total resistance may be open to doubt, since the complex nature of the factors at work in immunity is obvious. When it was first discovered the agglutinating power of the serum was thought to afford such a criterion, and it undoubtedly did in many instances correspond to some extent with the patient's resistance, yet its value as such is now doubted, and it may be that the opsonin-content of the serum will equally be found wanting. More important at the present stage of our knowledge is the doubt that has been thrown on the accuracy of the methods available for estimating this element in immunity. Apart from the possible influence of the personal factor in the process of enumeration of ingested germs it has been shown that successive series of leucocytes acted on by the same serum and fixed on the same slide may reveal serious divergencies in their phagocytic action, and a momentous source of error may thus arise unless an impracticable number of these cells are counted, while, as Dr. LANDMAN states, the complexity of the method is in itself a bar to its use by any but experts. It can hardly be denied that at the present time less attention is being paid to such estimations than was the case a short time ago. Perhaps, however, the pendulum may have swung too far in the negative direction, and time may yet evolve an improved method of procedure and rehabilitate this test of immunity In any case, a most interesting field of research has been worked, and the brilliant observations made by Sir A E WRIGHT and his pupils, while they have thrown lustre on British science, have opened a new chapter in the history of medicine.

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[2] THE LANCET, April 3rd, p. 968.

[3] THE LANCET, March 14th, 1908, p. 802, and March 20th, 1909, p. 854.

Annotations.

"Ne quid nimis."

ALCOHOL IN HOT-CROSS BUNS

THE decline in the sales of the hot cross bun, which appears to be admitted by the baking trade, is of little dietetic import seeing that, except for the addition of spice and currants, the hot cross bun is practically bread and is similarly prepared Fast nowadays has for the most part yielded to feast and there is no office left for the Good Friday bun The discipline of its consumption no doubt offered in bygone days moral and physiological advantages, but the times have changed and the bun has changed in them There is one interesting point in regard to the composition of a sample hot cross bun which we have brought to light in a recent analysis, and that is that it contained quite an appreciable quantity of alcohol Thus a bun weighing 2½ ounces was found to contain 7 2 grains of alcohol, or 0 68 per cent This amounts to the quantity of alcohol contained in a third of a fluid ounce of light beer, so that 20 buns would contain approximately as much alcohol as a tumbler of beer (8 ounces) This quantity, though appreciable, is of course very small and such as need give no concern to the anti alcoholist The fact is that the hot cross bun, like bread, is a partially fermented food, yeast being used to make it light, and the normal outcome of this process is a little alcohol It is, however, somewhat surprising that the alcohol formed is not completely dissipated by the heat of the oven, but doubtless owing to the tenacious character of the dough some of the alcohol is imprisoned The albumin glaze on the exterior of the bun may serve also to retain the alcohol Good buns, however, if need be, can be made without yeast and a *strictly teetotal bun obtained* The complete analysis of the bun compared with bread is of interest, the results being as follows —Water, 30 82 per cent , alcohol, 0 68 per cent , starch, 52 63 per cent , protein, 9 12 per cent , fat, 5 40 per cent , sugar, 0 85 per cent , and mineral matter, 0 50 per cent Bread contains 10 per cent more water, traces of alcohol, about the same amount of starch, 3 per cent less protein or nitrogenous substances, 4 per cent less fat, and approximately twice the amount of mineral salts Owing chiefly to a smaller proportion of water, the bun, weight for weight, contains a rather larger amount of *nutritive substances than bread, the occurrence of a relatively* large amount of fat, due to the addition of butter in the bun, rendering it a fairly complete food containing reparative and energising materials alike

THE MEDICAL INSURANCE COMMITTEE.

A MEETING of the Medical Insurance Committee was held at the offices of the British Medical *Association on Thursday*, April 1st, when the report from the secretary and agent showed that all the business done by the Committee was progressing satisfactorily if slowly, and that especially the undertakings as to life insurance had substantially increased The renewals of policies under employers' liability have involved a great deal of work, at least 75 per cent requiring some change in the conditions of the policies, and a voluminous correspondence was the inevitable accompaniment The total number of policies dealt with represent 2540, of which 2480 are running As a result £160 have been distributed among the insurers, who have also been *relieved by the agency of all possible trouble and* inconvenience *Allowing for sundry liabilities*, but not for managerial expenses, a small surplus of £52 remained as the net result for the working of the year 1908. The Committee are not discouraged by the modest nature of their success and propose with the cooperation of the Guardian Assurance Company to continue the work Offers which have been made to them by other offices than the Guardian have let them see clearly that medical insurance has a future before it the importance of which will be great entirely according as many medical men avail themselves of a united scheme We may again remind our readers that communications on this subject may be made to Mr Guy Elliston, general secretary of the British Medical Association

THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

WE are pleased to offer again our congratulations to Sir Richard Douglas Powell on his re election as President of the Royal College of Physicians of London The very large majority by which the election was carried proved the continued confidence and approbation with which he is regarded by the College This is all the more significant in *that important matters are under discussion, notably the* negotiations which are proceeding in connexion with a scheme to render a London medical degree reasonably accessible to all those students who are pursuing their studies in London, an event which Sir Richard Douglas Powell has truly at heart The sagacity and tact which have always characterised his actions will be particularly valuable at the present juncture, and we consider that the College evinced sound judgment in again electing him to the office which he has so ably held for the past four years

CANNIBAL MEDICAL LITERATURE

IN an annotation which appeared in THE LANCET of March 20th the Battaks (pronounced "Battas') of Sumatra were described as low savages addicted to cannibalism. But it is only fair to these despised people to point out that they possess a literature, and that their literature is medical The Battak manuscripts of which there are a few specimens in the Marsden library at King s College (University of London), are curious examples of the most primitive form of book In his classic work on Sumatra, published in 1811, William Marsden thus refers to this literature of cannibals "Their books are composed of the inner bark of a certain tree, cut into long slips, and folded in squares Their contents are little known to us The writing of most of those in my possession is mixed with *uncouth representations* of *scolopendra* and other *noxious* animals and frequent diagrams which imply their being works of astrology and divination " M Claine, reporting in 1892 on a Battak MS , of which the late Dr G W Leitner reproduced a copy in photogravure in the *Imperial Asiatic Quarterly Review* (1892), describes it as referring to some plague The book was presented to Dr Leitner's much abused Oriental Congress at the time, and was submitted by him to Pundit Janardhan, an eminent Vaidak physician of Lahore The writer of this article was at the same time busily employed in unearthing the Battak manuscripts in the Marsden Library at King s These, with Captain Cook's original diaries and other treasures of price, were soon found in a large box, which had never been lost, but which had suffered neglect owing to its very obviousness In no long time the learned Pundit doctor of Lahore replied in the pages of Dr. Leitner's *Review*. We in England had been possessed by the idea that the Battak bark books contained a definite adumbration of the theories of Pasteur. The little twiddles, painted in some black pigment on the bark, were held to be what were then called "germs." Dr. Janardhan entirely agreed with us, but he pointed out that the Battak illustrations were borrowed from ancient Hindi books, as is often the case where primitive authors are at a loss to find artistic comments on their ideas. He declared, in reference to the ancient Sanskrit medical books from which the Battak cannibals copied their illustrations with an infinite neatness: "Whatever people may choose to say about the discovery of bacilli and microbes as a new thing (in 1892) in medical science, it is quite evident that the principle of this discovery was many ages ago given in our Sanskrit books of medicine; and the details, elaborated and tabulated, can be produced to prove this statement." But the Sanskrit illustrations in question really refer to worms, not to germs. In India diseases are often traced to a "Kira" or worm, and the Battak pictures really depict a number of these. Two very large ones, with fangs and antennæ, are supposed to produce respectively cholera and diarrhœa and phthisis. Another smaller worm is held to set up leprosy. Many worms are held to be invisible. The orthodox number of worms is 20. Their excess in the human being produces certain diseases, their defect certain others. They are mentioned in all the old books of Hindi medicine. It is curious to note that leprosy arises from a worm, in the opinion of the Sanskrit medical authorities. But from the brutal Western point of view a worm is *not* a microscopic germ. Nor are we inclined to be cajoled into a bacterial theory of the origin of disease having been familiar to the ancient Hindoos from such evidence as the learned Pundit has so far put before us.

THE OPERATIVE TREATMENT OF FRACTURE OF THE BASE OF THE SKULL.

THE current treatment of fractures of the base of the skull is purely expectant—rest, purging, and the application of cold. In the *Intercolonial Medical Journal of Australasia* Dr. D. Murray Morton, surgeon to St. Vincent's Hospital, Melbourne, has called attention to the value of operative treatment in many cases which seem hopeless. The immediate danger in severe head injuries is principally due to compression from extravasated blood. Harvey Cushing in Keen's "System of Surgery" admirably states the position thus: "In any serious cranial injury in which unconsciousness has been present from the first, subdural bleeding is taking place either from the fracture itself or from some laceration of the brain." With regard to basal fractures he says: "One cannot hope to disclose the point of injury or to check the oozing which may be taking place, but the chief indications in the face of compression symptoms are to bring relief by decompression and to furnish a means of escape for the extravasating blood. When the pressure phenomena have not advanced to the point of seriously implicating the bulbar mechanism expectant treatment may be resorted to. If, however, there is evidence of failure in this mechanism it is inadvisable to delay intervention." Dr. Morton advises that every grave head injury, and especially basal fractures, should be placed under close supervision, and that whether fracture of the base is diagnosed or not a decompressive operation should be performed if there are serious or increasing symptoms of compression. In the absence of symptoms indicative of hæmorrhage from the middle meningeal artery or of other focal symptoms, and probably in all cases of fractured base, the occipital route is recommended by Cushing and gives the easiest and safest access. It affords efficient drainage and a substantial buttress of muscle to prevent hernia cerebri. The following case is an example of the advantages of prompt operation. A clergyman was admitted to St. Vincent's Hospital on Sept. 23rd, 1908. He had been knocked down by a large motor-car and was picked up unconscious. The temperature was 98° F., the pulse was 80, good, and regular, and the respirations were 22 and easy. Across the right upper eyelid was linear extravasation and there were some abrasions of the nose. In the left occipital region was a contused wound with considerable swelling around it from extravasated blood. The pupils were equal, active, and moderately contracted. The knee-jerks were increased. Vomiting, with traces of blood, occurred soon after admission. The pulse gradually became slower and irregular, falling as low as 54 about half an hour after admission, and the patient was lapsing into coma. The head was shaved and the scalp was sterilised. The occipital wound was freely enlarged and a linear fracture of the skull was found and traced upwards towards the vault on the left of the middle line and downwards towards the foramen magnum. The skin and muscles were freely reflected from the occipital bone and the fracture was found to increase in width towards the base and to exude dark blood freely. As the trapezius and complexus muscles were reflected small scraps of brain tissue were found in their substance. A small trephine was applied over the horizontal table of the occipital bone with its inner margin at the fracture and a disc of bone was removed. The dura mater was opened and deeply blood-stained cerebro-spinal fluid flowed freely. The cerebellum was contused and lacerated. A small rubber drainage tube was cut longitudinally and passed with the resected aspect downwards towards the foramen magnum. The wound was closed with silkworm gut and horsehair sutures, and the tube was fixed by a suture. During the operation the pulse improved in volume and became steadier. At the conclusion of the operation the extravasation of the right upper eyelid, which at first resembled a pencil mark, had increased to an ecchymosis of about the size of half a walnut. It was inferred that the fracture passed from the foramen magnum through the right middle fossa and then ran forwards in the anterior fossa into the orbital plate. On recovery from the anæsthetic the patient was restless and irritable but slept in the intervals. He was able to speak and insisted that he should be up and at his work. In the evening the temperature rose to 100·2° but afterwards was normal. There was copious discharge of blood-stained cerebro-spinal fluid for three days and then of clear fluid, and recovery ensued.

THE INTELLECTUAL ACHIEVEMENTS OF THE BLIND.

THREE months ago the centenary of the birth of Braille, the inventor of special type for the use of the blind, was celebrated. Braille had been blind from the age of three. In 1828 he was appointed professor in the Institution Royale des Jeunes Aveugles. The pioneer in the education of the blind by development and training of the sense of touch was Valentin Haüy, who founded a school in 1784. For reading purposes he used only ordinary type printed in relief. Reading by this method was a tedious process and no greater benefit was ever conferred upon these afflicted people than the invention of the Braille system. How great a success it has been and how much it is appreciated is shown by the fact that the Bibliothèque Braille now contains over 25,000 volumes. An instance of extraordinary intellectual development and achievement in spite of loss of sight, hearing, and speech is found in the now well-known case of Helen Keller. Another noteworthy achievement by a blind young man is a book in three volumes, comprising 1250 pages, entitled "Les Sources et l'Évolution des Essaies de Montaigne," by Pierre Villey (Paris: Hachette, 1908). The author has been blind since the age of four and a half years. At the age of eight he commenced the study of Braille type. He was educated at the Institution Nationale des Jeunes Aveugles in Paris and at the École Normale Supérieure. Attracted to the study of history and literature, he undertook the important task of trying to arrange Montaigne's "Essays" in chronological sequence and to trace the thoughts and allusions, so far as these were borrowed, to their original sources. With the help of a secretary he wrote out the whole of the essays in Braille type. With these 20 volumes at his disposal he compiled three annotated indices of the chief ideas presented by the author, the characteristic images, expressions, and so on, and the historical examples and anecdotes. He then obtained and had read to him all the possible contemporary sources of Montaigne's inspiration. That the result is a worthy contribution to literary history is shown by an appreciative criticism in the *Revue des Deux Mondes* of Feb. 1st last. The number of the same review of March 15th contains an interesting article by M. Villey upon Intellectual Work amongst the Blind which will well repay perusal by those who are concerned in the alleviation of these afflicted people.

EPIPLOITIS FOLLOWING THE RADICAL CURE OF INGUINAL HERNIA.

IN the *New York Medical Journal* of Feb. 6th Dr. C. Greene Cumston has described an unusual sequel of the radical cure of inguinal hernia—namely, epiploitis. The operation was performed on a man, aged 24 years, for right inguinal hernia. The sac contained only omentum, a large mass of which was resected and ligatured with kangaroo tendon. The operation was easy and rapid, but on the following day the abdomen was distended and the patient complained of pain. On account of the distension respiration was somewhat difficult, although it was unaccompanied by pain. On the third day the patient was very restless, but the temperature was not elevated. The bowels acted after administration of an enema, but the distension continued. The condition remained about the same until the ninth day, when the temperature rose to 102°F., and the abdomen became still more distended and tender on percussion. The tongue was dry and the patient was more restless. A swelling was felt in the right hypochondrium, extending from the costal border to the iliac fossa and most marked under the cicatrix of the operation wound. The latter was in perfect condition and the stitches were removed. The swelling was elongated in shape, with its long axis running vertically from above downwards, and appeared to be in direct contact with the abdominal wall. It felt resistant and immovable, and was dull all over. It was painful and the pain was increased by palpation. The abdomen was still distended and the constipation was obstinate in spite of the administration of high enemata. The temperature was 104° and the abdominal facies was present. Epiploitis was diagnosed. Ice-bags were placed on the abdomen and a pill containing two centigrammes of colloid silver was given four times daily. At the end of 12 days the temperature reached normal. The bowels began to act normally and the pain and swelling diminished. The colloid silver was continued for three weeks. Seven weeks after the operation the patient was discharged in perfect health. There are several forms of epiploitis. There is a benign form which shows itself by slight tumefaction and very little pain and from which recovery is rapid under rest in bed. Occasionally epiploitis manifests itself by the ordinary symptoms of intestinal obstruction. Sometimes suppuration occurs and manifests itself by a high temperature and the presence of an intra-abdominal fluctuating mass, and symptoms of intestinal obstruction (abdominal distension and fæcal vomiting). In such cases secondary laparotomy and treatment of the condition present, such as opening and draining an abscess or breaking down adhesions, which cause intestinal obstruction, may be necessary.

THE "AFTER-CARE" ASSOCIATION.

WE have before us the report for the year 1908 of the council of the After-Care Association for Poor Persons discharged recovered from Asylums for the Insane. The better known this admirable association becomes the more widely does its sphere of usefulness extend, and we note that in the year reported on 610 visits were paid, more than 4060 letters were written, and 620 interviews took place at the office of the association. A large amount of personal care is devoted to each individual case, and it is the constant endeavour of the association to find suitable work and a suitable environment for the convalescent patients to whom its care is devoted. It is a fact that is frequently overlooked that recently discharged patients are rarely, if ever, sufficiently well to resume the battle of life as if nothing at all had been the matter with them, and the result is that too often many rapidly break down again. To avoid this the association seeks to relieve the discharged patient from the worry of looking for employment and to make sure in each individual case that the work when found is not in excess of the patient's capacity. The work done by the association in this way is worthy of all possible commendation and support. We notice with pleasure that at several institutions offertories are made in their chapels in aid of the association, and we hope that by this means, as well as by the method of subscription, the association may be assisted still further to extend its field of beneficent usefulness.

PERIODIC FAMILY PARALYSIS AND EPILEPSY.

THE etiology of periodic paralysis, that condition in which a transient flaccid paralysis of a limb or limbs recurs at irregular intervals and is associated for the time with loss of all electrical reactions in the groups of muscles concerned, is still exceedingly obscure. A case was recorded as long ago as 1882 where the patient's father was also affected, and a brother was an epileptic. This same patient has been followed carefully, and the remarkable fact ascertained by Dr. Bornstein—whose paper will be found in a recent number of the *Deutsche Zeitschrift fur Nervenheilkunde*—that his periodic paralysis ceased five years ago, to be succeeded by attacks of typical epileptic vertigo and other epileptic equivalents of a visual character. Dr. Bornstein reports a further case in a boy aged 14 years, mentally and physically somewhat backward, who from the age of two and a half to four years suffered from convulsive epileptic attacks with loss of consciousness. Since the age of eight he has been the subject of recurring paralyses of his limbs, appearing at highly irregular intervals, usually during the night, and lasting from a few hours to a day or a day and a half. At no time is there any loss of consciousness in these paralytic seizures. Sometimes the whole musculature of trunk and limbs is affected; sometimes the latter are more affected on one side than the other; sometimes certain muscular groups, such as flexors or extensors, are singled out. The deep reflexes are usually diminished, but the knee-jerks have always been found brisk, although there is no extensor response on stimulating the sole of the foot.

almost impossible to define accurately the time relation between the *raw* and *stored* water. Thus the "intakes" are sometimes closed, the volume of water abstracted for storage purposes varies from time to time, the method of circulating water through the storage reservoirs depends on circumstances, and the amount of water in the reservoirs varies greatly throughout the year.

Source of raw river water.	Description of stored water.	Nominal number of days' storage.
River Lee at Ponders End.	Lee stored water.	58·44
River Thames between Sunbury and Hampton.	Chelsea stored water.	15·09 Based on the 1906–07 supply.
	Lambeth stored water.	14·35
Almost entirely River Thames above Bell Weir.	Staines stored water.	95·00

Dr. Houston proceeds to state that his chief object was to ascertain whether the number of days' storage capacity which it is necessary to provide in avoidance of shortage of water-service under unfavourable conditions of flood and drought may be held to suffice in the matter of satisfactorily securing safety of the water in an epidemiological sense. In a word, does storage for *quality* require more accommodation than the obviously necessary storage for *quantity?* In the conclusions at which Dr. Houston arrived at he accepts personal responsibility so far as they are controvertible.

The second section of the report describes the bacteriological results and commences with a table showing the number of bacteria grown from the raw and stored water respectively on various media. This shows that the stored waters contained very few "total" bacteria in comparison with the raw waters, the reduction being especially well marked in the case of the Lee stored water.

> As regards ratios, the results seem to indicate that the reduction in the number of bacteria in the stored as compared with the raw waters, tends to be *proportionately* less in agar at 37° C., than in gelatine at 20 22° C.; the converse (except as regards Lambeth) holding true when the bile salt agar and ordinary agar results are compared In other words, although storage apparently leads to a rather smaller *proportionate* reduction of organisms capable of growing at blood-heat than of microbes of all sorts, *proportionately* as well as actually, fewer blood-heat organisms are able to grow in bile-salt agar than in agar.

The results for bacillus coli are next given and afford striking reading.

> *Thames water.*—About 50 per cent. of the samples of *raw* Thames water contained typical B. coli in one-tenth of a cubic centimetre. Of the Staines, Chelsea, and Lambeth *stored* water samples about 34, 43 and 16 per cent. respectively contained *no* typical B. coli in one thousand times as much water—namely, in 100 cubic centimetres. Or, preserving the same order, only 66·2; 57·2 and 83·7 per cent. of stored water samples yielded positive results in 100 cubic centimetres, and only 32·5; 32·5 and 51·2 yielded positive results in 10 c.c. of water. Thus on the foregoing basis of comparison, the Lambeth stored water was about one hundred and the Staines and Chelsea stored water between one hundred and one thousand times less impure than the *raw* Thames water.
>
> *Lee water.*—Over 50 per cent. of the samples of *raw* Lee water contained typical B. coli in one-tenth of a cubic centimetre.
>
> As regards the Lee *stored* samples, actually as many as 67·4 per cent. yielded negative results with 100 cubic centimetres and only 32 5 per cent. yielded positive results in that amount. Thus on the foregoing basis of comparison the Lee *stored* water was over one thousand times less impure than the *raw* Lee water.

Dr. Houston proceeds to show that as bacillus coli is more resistant than the typhoid bacillus it is presumable that the same results would apply to the latter organism if it were present, a presumption which has the support of his former research, in which he added typhoid bacilli to raw river water and found that 99 per cent. of them died after storage for a week. The results obtained in the present research with the bacillus enteritidis sporogenes are next described and show that storage caused a great diminution in that organism. In the case of the *raw* Lee water, 36·5 per cent. of ten cubic centimetre samples gave a growth, whereas it was not cultivated from a single sample after storage of the water. Further, on taking the Lee averages as a whole it was found that there was a 97 per cent. reduction of all bacteria growing at blood heat, and of those capable of growing on a bile-salt medium (chiefly excremental bacteria). Dr. Houston infers from this that a *raw* water which has uniformly undergone such a remarkable metamorphosis is almost certainly incapable after filtration, possibly (perhaps even probably) antecedent to filtration, of causing epidemic disease. Nevertheless, he regards storage of water as a pre-filtration precaution of the utmost value, not as a substitute for filtration. But in advocating sufficient storage accommodation he would much prefer the use of insufficiently stored water to the use of *raw* river water for filtration purposes. He next considers the ratios in the number of typical bacillus coli to the total number of bacteria found in the raw and stored waters, figures into which we need not enter further than to record that the worst results of the latter were on a level with the best results of the former waters.

The third section of the report deals with the chemical results from which we need only make brief extracts:—

> It will be seen ...... that in all cases, the *stored* waters contained (on the average) less ammoniacal nitrogen, and less oxidised nitrogen; absorbed less oxygen from permanganate, and were less turbid, brown-coloured and "hard" (total hardness) than the average of the corresponding *raw* waters.
>
> As regards the albuminoid nitrogen test, the average Lea stored water did not differ from the raw water, the Staines and Lambeth stored waters suffered an apparent increase, and only the Chelsea showed a reduction. In this connexion it must be remembered that the albuminoid nitrogen is an empirical test, and that it appears that a *stored* water may yield a higher ratio of ammonia to total organic nitrogen when boiled with alkaline permanganate than does a *raw* water.
>
> A considerable number of laboratory experiments were also carried out to ascertain whether the *stored* waters were more easily filtered than the *raw* waters. The results are not given here as the method employed was only a rough and ready one. But they sufficed to show, under the conditions of experiment employed, that in the *absence* of an excessive development of algae, stored water was much more amenable to filtration than *raw* water. Under normal conditions (i.e. in the absence of algae) the use of *stored* water prolongs the life of a filter bed, often to a remarkable extent. In this connexion it may be pointed out that lengthening the life of filter beds is not only economically advantageous, but of epidemiological importance. For it is obvious that with a given filtration area the more filter bed area there is in active and efficient operation the better the results are likely to be. Unfortunately, however, it must be added that when algae develop in the storage reservoirs to an abnormal extent the *raw* river may be much more easily filtered than the stored water. To a considerable extent the developments of algae in storage reservoirs may be controlled by the use of copper sulphate, &c. Nevertheless, the use of chemicals is not likely to be recommended and is to be deprecated indeed unless carried out under proper scientific control.

In his concluding recommendation Dr. Houston suggests that the use of mechanical filters in place of sand filters might overcome the difficulty of an excessive development of algae. He also adds a caution against applying laboratory results too closely to the case of reservoir stored waters, in which the growth and decay of animal life and other factors may considerably affect by a sort of "mass action" the fermentation and oxidation of river waters. *He* suggests that the question of cleaning out the mud deposited in reservoirs may assume more prominence in the future and that it may be advisable to pass the water through preliminary settling reservoirs before its systematic period of storage in the larger reservoirs. He enters a plea for the utility of chemical water analysis which has been minimised in some quarters of late, showing that in some instances it may be the only way of gauging the work done by bacteria.

Section IV. deals with the shape, size, depth, construction, and method of working storage reservoirs. Stress is laid on the importance of arranging inlets and outlets with a view to insuring free circulation of the water. The "continuous flow" method of using a series of small reservoirs is advocated as more scientific and economical than the "quiescent method" of using large reservoirs, in which they are filled, closed for a certain number of days, and then emptied. The question is discussed as to whether the Board would be best advised to store its river water on a basis of a minimum or maximum period of 30 days. Dr Houston points out that the former method would involve the construction of enormous and costly reservoirs, and suggests that the latter would be found efficient if provision were made against deterioration of stored water during periods of stress and storm, such as the installation of "roughing" filters or precipitation tanks to be used upon occasion between storing and filtration.

Sections V., VI., and VII. deal with certain qualifying considerations, alternative measures such as sterilisation and the disadvantages of storing, to which due weight is given, but none of which appear to present vital difficulties to Dr. Houston's scheme. Their consideration is followed by the final section on the advantages of storing and Dr. Houston's conclusions. He states his case with logical precision under the following five heads:—1. *Adequately* stored water is probably incapable of causing epidemic disease. 2. There is reason to believe that stored and subsequently filtered waters are in a better condition chemically and physically than unstored and filtered waters. 3. Adequate storage may lead to easier filtration and a resultant economy of cost. 4. Adequate storage will afford a continuous sense of security absent under conditions which make it impossible to examine daily samples of all water passing through the Board's 160 filter beds. 5. Adequate storage tends to wipe out the gravity of the charge that London's supply is derived chiefly from sewage-polluted rivers.

Finally Dr. Houston replies in words which we must quote in full to the question as to whether the results of the research justify the policy of storing all water before filtration.

> I venture to anticipate that it will be considered that this question has been answered satisfactorily in the affirmative.
>
> [illegible] water of inferior quality) a period inevitably follows during which the duration of storage of necessity falls short, it may be far short, of 30 days.
>
> There are two ways of coping with this difficulty: 1. To consider 30 days as a *minimum* period of storage. This would entail the construction of huge reservoirs at an unremunerative cost, capable of holding for more than 30 days a supply of water, in order to cope with the [illegible] 2. To consider 30 days a [illegible] t during times of stress and [illegible] of purification, *antecedent* to storage, or *subsequent* to storage but *antecedent* to final sand filtration, as have been briefly outlined in the concluding paragraphs of Section IV. of this report.

Dr. Houston's final conclusion is that *raw* river water should be stored *antecedent* to filtration, preferably for 30 days. The question of whether the 30 days' storage should be fixed on a maximum or on a minimum basis he has left unanswered, but he holds that if the former alternative be chosen the desirability of employing supplementary processes of water purification to tide over emergencies is worthy of consideration.

THE ROYAL COMMISSION ON THE POOR-LAWS AND RELIEF OF DISTRESS.

VI.[1]

THE REPORT OF DR. J. C. MCVAIL ON POOR-LAW MEDICAL RELIEF IN CERTAIN UNIONS IN ENGLAND AND WALES.

IN order to render complete the information upon which it was to base its report, the Commission caused to be undertaken, by investigators appointed on account of their special competency in relation to certain subjects, various inquiries of importance. It is not proposed to deal at length in this series of summarising articles with all of these special reports, for their gist has in many instances been made plain by reference to them in the Majority and Minority Reports, which in some instances have quoted freely from them. It will, however, be of interest to readers of THE LANCET to comment upon some of them briefly as they appear, when they are concerned with questions affecting the medical profession. But one report of a special investigator to which reference was made in THE LANCET of April 3rd, p. 993, demands more elaborate treatment. It has been issued in a Blue Book, which, including appendices, contains 338 pages of printed matter, and is that of Dr. McVail, county medical officer of Stirling and Dumbartonshire, who was instructed to "inquire and report on the methods and results of the present system of administering indoor and outdoor Poor-law medical relief in certain unions to be selected from a list drawn up by the Commission." Dr. McVail brought to this inquiry a mind trained by work and experience of a kindred character in Scotland, but unfettered by previously acquired knowledge of Poor-law methods in England and Wales, and he bases his conclusions upon conditions observed in a large number of typical unions, Metropolitan, urban, and rural, ranging north and south from Northumberland to Somerset and east and west from Norfolk to Montgomeryshire. It will be observed by those who peruse Dr. McVail's report that owing to the wide terms of the reference made to him and the extensive area covered by his investigations, the summary of his conclusions almost inevitably takes the form of a general scheme recommending measures of change affecting other branches of Poor-law work as well as that of medical relief. Dr. McVail, in drawing his conclusions, has been at the disadvantage of not knowing the nature of those at which the Commissioners themselves would arrive, and to which they were evidently guided to a large extent by the facts laid before them by himself and others. Indeed, as he himself observes (p. 17), "In making recommendations and suggestions as to possible alterations in the present system, it has been necessary to think of the subject first, on the assumption that the present local organisations will remain, and that improvements in detail only are to be considered, and secondly, on the hypothesis that there may be a fundamental change in the local authorities, or a transference to country or municipal administration of medical work, at present done under the Poor-law, the main object of such transference being development of the preventive as distinguished from the curative or palliative side of medical treatment." The sentence quoted will be found to contain a certain amount of not incorrect prophecy, for both the Majority and Minority Reports agree that there should be a fundamental change in the authority with a view to prevention and relief, a change which, if the Majority Report is followed, will institute a new local authority altogether, or which, according to the advice of the Minority, should lead to a "transference to county or municipal administration." The consideration of improvements in detail only is not likely to satisfy the Legislature, because the improvements in detail the need for which is urgent are too numerous and too far-reaching. It is a matter of observation, however, that the report of Dr. McVail reveals many possibilities of improvement well within the competency of boards of guardians and not implying substantial increase of expenditure on their part. As examples might be mentioned provisions for admitting to dormitories and sick wards the fresh air which is always at hand by unsealing windows and opening them; similar steps to secure the ventilation of closets and latrines; the authoritative regulation and better supply of hot water in reasonably comfortable bath-rooms; provisions for a reasonable individual use of towels and hair brushes; the instruction of the young in the use of tooth brushes, and the provision of these important aids to the sanitary toilet. Obviously the undesirable qualities of the present system which point to its drastic reorganisation in the opinion of the Commission are not inseparably connected with matters of detail of this kind, which, however, appear necessarily in the report of a medical investigator upon existing conditions observed from the point of view of practicable sanitary reform.

Dr. McVail divides his report into nine parts. Part I. is introductory, and, besides explaining the methods adopted by the investigator, contains statistics of pauperism in unions visited, particularly instructive with regard to the varying cost of pauperism, the expense of keeping the individual pauper, and the expenditure per head of the population upon poor relief. Part II. and Part III. [illegible] rural and urban workhouses [illegible] entitled "Certain Questions [illegible] Urban Medical Relief." I[illegible] insufficiency of medical attendance in sick wards and infirmaries Dr. McVail has had to draw a sharp distinction between rural and urban districts, and he points out that the effect of the repugnance to the "workhouse" observable in rural districts includes sick wards and infirmaries, so that in the country the majority of cases requiring medical care accept outdoor relief and refuse to come within doors. It need hardly be added that some of these require institutional treatment, and that to render it acceptable to them will be one of the results aimed at under whatever system takes the place of the present one and abolishes suffered universally more than males, probably owing to their more constant use of this foul water. Epidemic dropsy reappeared during the latter half of the year in an epidemic form. Dr. Pearse draws attention to the frequent occurrence of cases indistinguishable from cases of beri-beri; thus these showed deep-seated pain in the legs and calves, impairment or loss of knee-jerk, unsteadiness of gait, and cardiac trouble. Anæsthesia, which had not been noticed in previous outbreaks, occurred in the one under notice. Death occurred also, sometimes suddenly. It is apparently a communicable disease with an incubation of about three days.

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[1] Nos. I., II., III., IV., and V. were published in THE LANCET of Feb. 27th (p. 633), March 6th (p. 706), 13th (p. 782), 20th (p. 859), and 27th (p. 935), 1909, respectively.

The report concludes with an account of the work of the department in the laboratories, the work carried out by the food inspectors, with other matters, and finally, various excellent sanitary reforms are suggested as regards privies, municipal cowsheds, and slaughter-houses. The provision for displaced population and for the removal of infectious cases to hospital is also at present wholly inadequate to the requirements. This is a most admirable report.

Burma.

Major C. E. Williams, I.M.S., the Sanitary Commissioner for Burma, furnishes the annual report for 1907. Since the retirement of his predecessor Colonel W. G. King, the offices of Inspector-General of Civil Hospitals and Sanitary Commissioner have been separated, Major Williams being appointed to the new post of Sanitary Commissioner to the province. With reference to the vital statistics, the total population, which in 1901 was 8,485,980, had increased by March 1st, 1908, to 9,731,233. There was an increase of births over deaths to the amount of 52,841; the registration of births and deaths, however, the Sanitary Commissioner shows, is capable of much improvement. As regards the rainfall, that in Lower Burma was much in excess of that in 1906, whilst in Upper Burma the contrary obtained, the latter year having showed a great decrease. No excessive sickness or mortality, however, appears to have resulted from this scarcity in 1907. The death-rate for the whole province was 26·60 per 1000.

Turning now to the chief diseases, we see that cholera accounted for 8378 deaths, showing an increase of 506 over the previous year. The Irrawady Division, as usual, suffered more than any other. Upper Burmah escaped entirely with the exception of an outbreak in the Lower Chindwar which accounted for over 100 deaths. The Sanitary Commissioner shows how the river water is the chief vehicle for the spread of the disease. Thus at Rangoon it was practically confined to dwellers on or by the banks of the river and main creeks not provided with a pipe water-supply or with an efficient conservancy system. A number of samples of river water stored in the dwellings of persons infected with cholera were found to contain vibrios giving many of the reactions typical of the vibrio choleræ, and similar organisms were present in samples of water taken from the streams and creeks in the vicinity. Such water is employed in cook-rooms to wash the food utensils and for other domestic purposes. The cold fresh water tanks were not under suspicion as they were resorted to by a large population of Burmans and others who did not suffer from cholera, and microscopical examination of samples of the water showed it to be free from vibrios. During the last two successive years a row of buildings overhanging the river in the Kamakisit quarter, and occupied by Mahomedan Khalasis employed on river launches and steamers, supplied many cases of cholera, whilst the residents of the adjacent rows of houses a few feet away, nearly all Burmans, escaped infection. The latrines used by the Mahomedans overhang the mud shore, which is washed by each returning tide, and from the water thus polluted the residents of the huts drew their supplies, which were found stored in jars adjacent to their cooking places and drinking water-jars, and either supply was, no doubt, used somewhat indiscriminately by the cooks. In the North Kemmendine quarter of Rangoon the water of a certain well was found to originate cases; its closure put a stop to the disease. The Sanitary Commissioner also thinks that the river water is itself the vehicle for the spread of the cholera poison, as the excreta of 50,000 persons fall into it directly from overhanging latrines or are washed into it by the rising tides or by heavy rain. To remedy these defects an ample supply of fresh water is recommended for all purposes, whilst an efficient system of conservancy must be introduced into the riparian quarters and the shores of the rivers and creeks must be kept free from pollution. Thus the spread of infection will be reduced, although the population afloat will still be a source of danger. Amongst the preventive measures introduced we are glad to notice that facilities for boiling water were adopted, the washing of clothes in the river was prohibited during the cholera season, and the erection of new dwellings close to the banks of the creeks was prevented in accordance with the policy suggested by that energetic officer, Colonel King.

Regarding fevers, we note that there was an increase of 3401 cases over the return for 1906. Enteric fever was found to be more widely distributed than was formerly supposed, the diagnosis having been confirmed by Widal's reaction and by post-mortem examination. Distribution of quinine by tablets, which are much preferred to powders on account of the bitter taste of the latter, takes the first place in the preventive measures against malaria in this province. Other measures are the formation of mosquito brigades, drainage schemes, and the clearing of brushwood in the vicinity of towns. Small-pox occurred in 1908 with less frequency in Lower Burma than in 1907, there being 6371 fewer deaths, whilst in Upper Burma there were, on the contrary, 713 more deaths. A vaccination manual is under preparation for the approval of the Government defining the duties of the district vaccination establishment and enabling thereby its services to be utilised to the fullest advantage. With respect to dysentery and diarrhœa, there was a decrease of 837 deaths on the 1906 return.

As regards plague, an increase of 612 over the mortality of 1906 occurred. This increase was confined, however, to Upper Burma, there being a decrease of 197 in Lower Burma. The Sanitary Commissioner points out tha the disease is really much more prevalent than the return show. Thus there was an enormous unexplained rise in th death-rate at Prome at a time when plague was believed t be in abeyance, and similar occurrences elsewhere lead hi to think that the plague mortality has been under-estimate The measures in force for the limitation of its sprea in already infected areas were surveillance, rat destru tion, cleaning measures, chemical disinfection, earth-oilin evacuation, and inoculation; of these the first was ineffectiv Every measure for the suppression of plague in a defin area must aim at the destruction or exclusion of rats. T effect this all refuse must be removed, the dwellings constantly cleaned, and the quarters for domestic animals mus be separated from those of their owner. Specially traine groups of men must be employed to exterminate the rats.

It has been found by Major Williams and Captain Ba Ket I.M S., special plague medical officer, that infectio usually starts in a neighbouring public bazaar or in th principal stores found in its vicinity. Stables are anothe constant centre, especially pony stables, the wooden floorin of which is so constructed as to leave a secure retreat fo the rats underneath it; in contradistinction, where a masonry pavement was laid down not one rat was observed. The Simpson steam and sulphur fumigator, exhaustively applied, did not have results coming up to expectation, and, moreover, no material for the piping was found capable of resisting the action of the combined steam and sulphur fumes, nor has the asphyxiator machine proved of much service. Major Williams rightly holds that where the wooden floors have been removed to get at the rats it is of chief importance to replace the floors by a masonry plinth or to raise the floors so that inspection and cleansing of the ground underneath can be efficiently carried out. 7,544,645 rats were reported to have been destroyed in 1907. 18,164 persons were inoculated with Haffkine's fluid, of whom only 60 people subsequently contracted the disease, with 43 deaths. Not much benefit accrued from earth-oiling. Chemical pulicides, as a spray, such as izal or cyllin with petrol, are claimed to have germicidal as well as pulicidal qualities, concerning which experiments are being carried out. In conclusion, the prevalence of plague was found during the last six months of 1907 to have been much less than in the corresponding period of previous years in nearly all towns and districts.

The remaining portion of this valuable report contains an account of the Port Health Department, of the civil sanitary work, some remarks on the necessity of model sanitary work, with the various appendices. Last year we dwelt on the extremely able report of 1906 of Colonel King, the Sanitary

Commissioner, and from a consideration of the one for the year 1907 we see that his mantle has fallen on no unworthy shoulders.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

ELECTION OF PRESIDENT.

AN extraordinary Comitia was held on April 5th, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The PRESIDENT announced that he had nominated Dr. W. Pasteur as the representative of the College at the 350th anniversary of the foundation of the University of Geneva to be held in July next.

The PRESIDENT expressed his thanks to the College for the expression of sympathy on the death of Lady Douglas Powell, passed at the last Comitia.

The PRESIDENT then delivered his annual address, in which he offered congratulations to those Fellows, Members, and Licentiates of the College who had received Royal honours during the past year. He also referred to the awards of medals, prizes, and scholarships by the College and drew attention to the Harveian oration and the lectures which had been delivered at the College. He mentioned the gifts to the College, particularly that of the late Mr. Charles Coates of Bath who gave £1000 for the purposes of the hospitality of the College. The financial condition of the College was satisfactory. He alluded to the increased number of colonial graduates who had applied to be admitted to the examinations, and also to the action which had been taken to oppose the charter or certain of its clauses which was being asked for by the British Medical Association. The President then proceeded to read obituary notices of those Fellows who had died during the past year:—Dr. C. J. Cullingworth, Dr. Edwin Rickards, Dr. B. L. Abrahams, Dr. Henry Ashby, Sir Thomas Stevenson, Sir Henry A. Pitman, Dr. Charles E. Beevor, Dr. Peter Horrocks, Mr. Charles Coates, and Dr. Arthur Gamgee. He concluded by expressing his thanks to the officers, censors, and Fellows of the College for the services which they had rendered him during his year of office.

The SENIOR CENSOR (Dr. NORMAN MOORE) moved, and the SECOND CENSOR (Dr. F. DE HAVILLAND HALL) seconded, that the President should permit his address to be printed. This was carried and the request was acceded to.

Sir R. Douglas Powell then vacated the chair. A vote of thanks to him for his services during the past year was moved by Sir W. S. CHURCH and seconded by Dr. C. THEODORE WILLIAMS, and carried with acclamation.

The election for President then took place, when Sir R. Douglas Powell was re-elected by a very large majority. The charge and insignia were delivered by the SENIOR CENSOR. The PRESIDENT then gave his faith to the College, and thanked the Fellows for the honour once more conferred upon him.

The following communications were received: 1. From the secretary of the Royal College of Surgeons of England, reporting the proceedings of its council on Feb. 11th and April 1st last. 2. From Miss Amy Maxwell, offering through Sir William Allchin for the acceptance of the College a photographic copy of a miniature portrait of her grandfather, Dr. Anthony Todd Thomson, a former Fellow of the College. The gift was accepted and the thanks of the College were ordered to be returned to the donor.

After some discussion the following by-law for the admission of women to the examinations of the College for qualifications was enacted for the first time:—

[illegible]

A communication was received from the Harveian librarian (Dr. J. F. Payne) on a proposed commemoration of the 400th anniversary of the birth of Dr. Caius, formerly President and benefactor of the College. Negotiations were proceeding with Gonville and Caius College, Cambridge, for reprinting some of Caius's works.

A report from the Committee of Management, dated March 9th, was received and adopted. The report recommended that the University of St. Andrews be added to the list of institutions at which the complete curriculum of professional study required for the diplomas of the Royal Colleges may be pursued and whose graduates may be admitted to the final examination of the Examining Board in England, on production of the required certificates of study.

The PRESIDENT then dissolved the Comitia.

THE MEDICAL INSPECTION OF LONDON SCHOOL CHILDREN.

THE London County Council at two recent meetings had under consideration an important report signed by its Education Committee in December last and containing the recommendations of its subcommittee appointed in July, 1907, to inquire into: (1) the existing provision for the medical treatment of the Council's school children; (2) the extent to which this provision could be rendered more available by the action of (*a*) the hospitals, (*b*) the Council; (3) what additional provision, if any, is desirable; and (4) how this provision should be supplied. The Council had also before it a comment by the Finance Committee upon this report, of which we now print a summary together with a short account of the Council's debate upon the matter. The subcommittee who presented the report was constituted as follows:—*Members of the Council or of the Education Committee*—The Chairman of the Education Committee, the Vice-Chairman of the Education Committee, Miss N. Adler, Mr. A. A. Allen, Dr. R. M. Beaton, Mr. S. J. G. Hoare, Mr. E. A. H. Jay, Miss A. Susan Lawrence, the Hon. H. Lygon, Mrs. Wilton Phipps, Dr. A. Salter, Major Skinner, and Mr. Graham Wallas. *Representatives of outside institutions*—Mr. Norman G. Bennett (British Dental Association), Sir Victor Horsley (British Medical Association), Dr. Sidney Phillips (Central Hospital Council for London), Dr. Charles Gray (Charity Organisation Society), the Right Hon. Lord Cheylesmore, C.V.O. (Metropolitan Hospital Sunday Fund), Mr. Douglas Owen (London Hospital), Mr. Robert J. Bland (Royal London Ophthalmic Hospital), and Dr. H. Morley Fletcher (St. Bartholomew's Hospital). This subcommittee held ten meetings, at which the following witnesses were examined:—Mr. Herbert Parsons, Dr. J. H. Sequeira, the late Dr. L. Abrahams, Mr. P. Macleod Yearsley, Mr. Wallis, Mr. Bishop Harman, Miss Wright (head mistress of Shepperton-road L.C.C. school), Miss Foxlee (head mistress of Haseltine-road L.C.C. school, and formerly head mistress of Waterloo-road L.C.C. school), and Miss E. M. Phillips (head mistress of Hanbury-street L.C.C. school), Mr. Warren, and Mr. Hancock Nunn. It also considered a report of the section of the day schools subcommittee on the work of the medical officer, memoranda by Mr. Norman Bennett, Mr. Herbert Parsons, and Mr. Bishop Harman, a memorandum prepared by the British Dental Association, and a report from Dr. G. Cunningham on the working of the Cambridge School Dental Clinic.

The following inquiries were addressed to 50 hospital authorities in a circular letter:—

(i.) What number of children of school age is being treated at the hospitals.

[illegible]

(v.) Whether the hospital authorities are satisfied with what they are able to do in regard to children with tubercular bone diseases.

A further letter was addressed to 198 hospitals, dispensaries, and kindred institutions within the county, asking,

[illegible] under 14 was treated during the years [illegible] the teeth, distinguishing between [illegible] traction of teeth? [illegible] 14 was treated during the years [illegible] the eyes, distinguishing between [illegible] cases? [illegible] the treatment of children under [illegible] of children [illegible] *b*) to use the [illegible] hours for the [illegible]

Council. The summary and recommendations made by the subcommittee in reply to the first three questions submitted for their consideration were as follows:—

1. Such facilities as exist for the medical treatment of school children are provided by hospitals, dispensaries, infirmaries, &c., and the general practitioner.

2. Many of the above-mentioned institutions with their existing accommodation can do no more so far as the treatment of the cases indicated is concerned. Some could do more if assisted from public funds; others could do no more whether assisted or not.

[illegible] ...modation exists to deal wi[illegible] ...reatment. On the other ha[illegible] children a large amount of [illegible] which is inadequate and in[illegible] ...ngworm, favus, suppurating ears and adenoids, debility and tuberculosis are as follows—

(a) Teeth.

(1) That there is a prevalence of dental caries among children attending public elementary schools, and that the existing accommodation in the hospitals and dispensaries, for even simple dental examination and treatment is wholly inadequate. (2) That it is desirable that provision should be made for simple dental treatment of school children. (3) That it is desirable that instruction in the hygiene of the teeth should be given to school children and to their parents or guardians. (4) That it is desirable that the daily use of the tooth-brush by children in their homes be encouraged. (5) That it is desirable that from time to time children be examined as to the cleaning of their teeth.

(b) Vision.

(1) T[illegible] ...ffering from defective vision. (2) Th[illegible] ...ol instruction, and, in many cases, [illegible] affected. (3) That neglect or delay [illegible] ...onic or permanent disability. (4) Th[illegible] ...ases, the existing provisions for their examination and treatment are [illegible] the delay and loss of time suffere[illegible] distance, hospital treatment for th[illegible] in the children not being treated [illegible] modation in the hospitals and dispensaries for such treatment is inadequate. (6) That all cases treated should be re-examined every other year. (7) That additional provision is desirable for the treatment in the vicinity of the school of all children suffering from errors of refraction.

(c) Ringworm.

(1) That, owing to this obnoxio[illegible] children, estimated at 2950 annual[illegible] vented from attending school and [illegible] (2) That the cure of the disease by lotions and ointments is a process occupying many months, or in some cases even several years, the patient being meanwhile prevented from attending an ordinary school and remaining a source of infection. (3) That the disease is now capable of being cured rapidly by x ray treatment, the child ceasing at once to be a source of infection and able to resume school on the re growth of its hair. (4) That, owing to the fact that x ray treatment is provided only at a few hospitals, where its use is greatly in demand for a variety of adult and other diseases, the treatment is available only to a very limited extent for ringworm cases. (5) That the delay and loss of time suffered by parents seeking, often from a distance, treatment for the children affected frequently results in unwillingness to submit the child for treatment, the child meantime remaining a source of infection. (6) That by means of the x ray treatment the disease can be practically stamped out, thus rendering unnecessary the present schools specially maintained for children suffering from it. (7) That provision is desirable for the treatment of the disease by x rays at a fixed centre or centres. (8) That power shall be given to compel the attendance of children for treatment immediately on discovery of the disease.

(d) Favus.

(1) That the present special treatment of cases of favus disease in one special school should be continued.

(e) Suppurating Ears; Adenoids.

(1) That cases of suppurating or discharging ears are greatly prevalent amongst children, about 1 per cent., or 7500 children, being thus afflicted, more especially those in insanitary surroundings. (2) That neglect of the complaint frequently results in deafness or defective hearing, and sometimes in consequence is dangerous to health or even life; in most cases the child being more or less disqualified from profiting by the school instruction. (3) That the cure of such cases involves skilled syringing of the ears daily as well as dressings. (4) That such treatment cannot in most cases be given at the child's home, and cannot be undertaken by the hospitals, even if the parents were able and willing to take the child there for [illegible] desirable for the proper treatment of [illegible] vicinity of the school. (6) That any [illegible] ment other than as above described, [illegible] adenoids calling for operation, should [illegible] treatment.

(f) Debilitated Children.

(1) That a considerable number of children living in insanitary conditions are so debilitated as to be unable fully to profit by instruction in school, or attend without further deterioration. (2) That such children especially succumb to tubercular infection as well as other diseases. (3) That it is desirable that further provision be made of schools on the lines of the existing open-air day schools at which debilitated children could be admitted by the local education authority for short periods.

(g) Tuberculosis.

(1) That tubercular disease with its consequences disqualifies children, if able to attend school, from taking due advantage of school instruction. (2) That many cases discharged after treatment from hospital, and other cases not treated in hospital or convalescent home, require [illegible] care, [illegible] arranged [illegible] earlier stages, and that it is of the first importance that it should be so treated. (4) That children in whom tubercular disease of the bones or joints is detected should be sent to their private practitioner or to hospitals for treatment.

With regard to Question 4, the subcommittee presented a reasoned argument as to whether the requisite additional treatment should be provided by (1) setting up school clinics under the immediate supervision of the local authority, or (2) utilising existing types of institutions, giving, if necessary, financial assistance. It found that the latter course was contemplated by the Act of 1907, and added: Further, the Board of Education Circular, 596, p. 8, draws special attention to the powers referred to in this proviso under the heading "Contributions to Hospitals, Infirmaries, Dispensaries, &c.," and goes on to state, "The Board of Education consider that, before the direct treatment of [illegible] is undertaken by the local education authority, whether by means of a school clinic or by themselves [illegible] and paying for medical treatment, full advantage should be taken of the benefits of such institutions." The Board will be prepared to entertain proposals for contributing to the funds of hospitals, dispensaries, and nursing associations on terms of adequate advantage. Such contributions are specially desirable in the case of eye hospitals and cottage hospitals which are prepared to undertake minor surgical operations. It is permissible to include among the conditions of contribution a provision allocating a [illegible] remuneration to the medical men working for such [illegible] tions. On p. 9 the circular continues: "The establishment of school clinics for purposes of treatment of defects revealed by inspection gives rise on the other hand to questions of considerable difficulty," which are then set out. After further comments the subcommittee made the following recommendations:—

(a) That, as the existing provision of private and hospital [illegible] sufficiently meets the requirements in the case of children [illegible] operative and in-patient treatment (who are thus removed from direct purview of the educational authority), no further steps be [illegible] in respect of this class.

[illegible] additional provision for the medical trea[illegible] has been found desirable, the Council [illegible] types now existing, giving financial help, if necessary, and receiving special facilities in return for any grant of public money, but that in districts where no suitable institution exists, and where [illegible] shall have been found impossible to make th[illegible] extension of existing institutions the Counci[illegible] in default of other means, it shall make the provision itself, and that it be referred to the Education Committee to report further on the matter.

(c) That the report of the Education Committee on the medical treatment of children, and the statements (Nos. 1 (I.-III.)) separately submitted on 30th March, 1909, be placed on sale and circulated in the usual manner.

This report was referred to the Finance Committee of the Council, which at the Council's meeting on March 30th presented its comments upon the proposals of the Education Subcommittee. The Finance Committee referred to the reception by the Prime Minister and Chancellor of the Exchequer of a delegation of local education authorities from England and Wales, to which he held out no hope that any increased grant could be made at present from the Exchequer in connexion with medical treatment. The Finance Committee concluded its remarks with this warning:—

> In connexion with the general question whether the Council should undertake the medical treatment of children it should be borne in mind that the education rate is rising and that it must, under present conditions and in the absence of increased Government grants, continue to rise, this being due amongst other th[illegible] increases in teachers' salaries, the cost of feeding [illegible] new duty imposed on the Council of t[illegible] of all children in elementary schools [illegible] Council is committed. It should als[illegible] being brought to bear upon the Council to increase its expenditure in connexion with education in various other directions, amongst which the question of a complementary superannuation scheme for teachers may be mentioned. The question which naturally arises is whether there is not a limit to the burden which the ratepayer should be called upon to bear in connexion with education, and whether, as between the many objects desirable in themselves which go to make that burden unduly heavy, it will not be necessary for the Council to make a selection.

Mr. JACKSON moved the adoption of the Education Committee's recommendation:—

> That to supply the additional provision for the medical treatment of school children which has been found desirable, the Council should utilise institutions of the types now existing, giving financial help, if necessary, and receiving special facilities in return for any grant of public money, but that in districts where no suitable institution exists,

[illegible] been found impossible [illegible] ion of existing institu- [illegible] lefault of other means, [illegible] o referred to the Educa- [illegible]

Mr. Jackson mentioned that it was hoped shortly to have a conference of hospital chairmen and secretaries to discuss what could be done by the hospitals and what the Council could do to help them. He was bitterly disappointed that the Prime Minister had receiv [illegible] Council's request for increased [illegible] medical treatment, but even [illegible] ance they must make some efforts to deal with the appalling state of affairs which the committee had found to exist. He could not advise the Council to undertake full treatment, important and necessary though it was. Dental treatment was the most expensive, with the exception perhaps [illegible] Council [illegible] ears, ar [illegible] with voluntary institutions which the committee suggested he hoped that dispensaries would not be overlooked. [illegible] etimes been the subjects of unfair [illegible] l should also extend its interest to [illegible] h had done so much for the sick poor.

[illegible] whilst declaring himself in hearty concurrence with the policy of the Education Committee, moved a long amendment which declared that the Council is of opinion that certain diseases of children should be treated, and referred it to the Education Committee to report as to the cost of treating each of the diseases mentioned in its report and as to the steps necessary to be taken to [illegible] visions) Act, 1907, [illegible] medical treatment [illegible] idea was that with the cost of treating each disease ascertained the Council could say which it would undertake. Without going so far as to say they would never treat the children's teeth, he did think they ought to wait until they had power to recover the cost from parents.

The subsequent proceedings were curious in view of Mr. Hayes Fisher's declared sympathy with medical treatment. His seconder, Mr. GRAY, talked the motion out. The debate stood adjourned until the next meeting of the Council.

At the same meeting the modified scheme of medical inspection approved by the Board of Education, to which we referred in THE LANCET of March 27th, was received. Mr. Johnson and Mr. Jephson had amendments on the paper, but they withdrew them after protesting that the scheme was inadequate.

The debate was resumed on April 6th, when it was announced that the Education Committee adopted Mr. Hayes Fisher's amendment.

Dr. SALTER thereupon moved the reference back with instructions *to the committee to submit a detailed scheme for the establishment of school clinics.* He urged that London hospitals were so distributed that they could not provide medical treatment for the children in many districts. The whole weight of medical opinion in London and England, of the dental profession, and of the British Medical Association was unanimously in favour of school clinics.

Mr. BRAY, who seconded, criticised the proposal of the Education Committee to recognise juvenile friendly and other benefit societies. He objected to the teachers and the organisation of the schools being used to canvass on behalf *of these societies and for the ultimate abolition of the* private practitioner.

Mr. C. U. FISHER pointed to the passing of the Education Act of 1870 as the first step in the undermining of parental responsibility. He looked with suspicion on the employment of medical men and dental surgeons by the Council because, although the fees paid might be small at first, they tended to increase.

Mr. ERNEST GRAY, who spoke again on the amendment, took the same line. He seriously distrusted estimates of the cost of medical treatment prepared by the medical profession.

Mr. A. A. ALLEN, M.P., supported clinics because he believed they would be in the long run the cheapest and the most efficient. Mr. Allen put forward an estimate of the cost of medical treatment based on his own calculations. The Council at present engaged medical men for quarter *time—three half-days a week or nine hours—at* £150 a year each. On that basis it would be possible to deal with 6000 to 7000 dental cases per annum and half that number of eye cases in one clinic. If 12 clinics were established, 70,000 to 80,000 dental cases could be treated and about half that number of cases of defective vision. The cost would be about £25,000 per annum. [illegible] to 42. [illegible] lment requiring that a [illegible] providing for medical [illegible] institutions at present in existence and establishing school clinics where other provision is inadequate." Dr. Beaton said a word in defence of dispensaries, which several members had criticised, and, with reference to the amendment, urged that if aid were given to hospitals and school clinics were established as well, it would be possible with the two systems going on side by side to decide which was the better.

This amendment, however, was also defeated, and Mr. Hayes Fisher's proposal was carried. The Education Committee will therefore prepare another report going into the question of cost.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on April 1st, Mr. HENRY MORRIS, the President, being in the chair.

The SECRETARY reported the death of Mr. James Hardie, a past member of the Council, and a vote of condolence with his relatives was passed.

On the recommendation of the Museum Committee it was resolved to request Dr. R. T. Leiper to undertake the revision and renovation of the collection of entozoa.

The Jacksonian prize was awarded to Mr. J. P. Lockhart Mummery for his dissertation on the Pathology and Treatment of those Conditions and Diseases of the Colon which are relievable by Operative Measures. Mr. Mummery was requested to attend the ordinary meeting of the Council on May 13th to receive the Jacksonian prize.

The Council decided that the subject for the Jacksonian prize for the year 1910 should be *Tuberculous Disease of the* [illegible] Organs.

[illegible] *rize was awarded to* Mr. [illegible] his original and other scientific work on dental anatomy, surgery, and pathology.

The best thanks of the Council were given to Dr. Norman Moore for his services as visitor to the examinations of the Egyptian Medical School at Cairo.

The Senate proceeded to the election to the Fellowship of Members of 20 years' standing, and the two following were elected—Sir Shirley Forster Murphy, medical officer of health of the *Administrative County of London*, and Mr. George Dancer Thane, professor of anatomy at University College, London.

Mr. H. H. Clutton was reappointed one of the two representatives of the College on the Senate of the University of London for a further period of four years.

The best thanks of the Council were given to Mr. J. Ward Cousins for his report of the proceedings of the Central Midwives Board, and for his very efficient services as the representative of the College on that Board during the past six years. [illegible] *of the Coll* [illegible] occasioned [illegible] te of [illegible] the celebration of the [illegible]

The PRESIDENT stated that Mr. A. Pearce Gould's period of office on the Court of Examiners would expire on May 12th next, and that the vacancy thus occasioned would be filled up at the ordinary meeting of the Council on May 13th.

Diplomas of Member were conferred upon the following gentlemen who have passed the necessary examinations and have now complied with the by-laws: George Aldon Greaves, M.D., C.M. Queen's University, Kingston, of Queen's University and London Hospital; and Arthur Salusbury MacNalty, B.A., M.B., B.Ch. Oxon, Oxford University and University College Hospital.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 9th, 1831.

ACADEMIE NATIONALE, PARIS.

OBLITERATION OF THE VAGINA BY THE INJECTION OF SULPHURIC ACID TO PRODUCE ABORTION.—CÆSARIAN OPERATION.—DEATH.

THIS singular case is detailed in a letter addressed to M. Guerin, it occurred in a married woman, the mother of four children, and pregnant of a fifth. At the commencement of her pregnancy, she was induced by a female neighbour to inject sulphuric acid into her vagina, as an extremely easy mode of inducing premature labour; dreadful inflammation set in, the parts swelled, great general disturbance ensued, and finally the vagina was so effectually obliterated that she could no longer endure the embraces of her husband; nevertheless, she kept the circumstance a secret till the full term of her gestation was expired. The medical men on examination found that a kind of irregular band surrounded and obstructed the vagina, beyond which, and on the brim of the pelvis, the head of the infant was distinctly felt, pressed forward by the uterine contractions. It was resolved to make an incision through the dense membrane, but when this was done, it was found that it adhered to the bladder, which the incision had completely divided. The delivery was not at all facilitated, and the attendants felt themselves compelled to perform the Cæsarian section. The infant was extracted, dead, apparently for some time, and the mother immediately expired.

BRITISH MEDICAL BENEVOLENT FUND.

AT the March meeting of the committee 23 cases were considered and grants amounting to £185 made to 19 of the applicants. Appended is an abstract of the cases relieved:—

Daughter, aged 45 years, of late M.D. Lond. Underwent a serious operation about a year ago and is unable at present to earn a living. Income only a few shillings a week. Relie[illegible]

Widow, aged [illegible] n a situation as [illegible] ing her husband during the two years illness [illegible]. Voted £10.

[illegible] of L.S.A. No income. Eight children, but only able to give slight help. Proposes to move so as to decrease her rent. Relieved ten times, £115. Voted £5 for moving.

Widow, aged 62 years, of L.F.P.S. Glasg. No income. Four children, but none able to help at pre[illegible]

Widow, aged 38 years, o[illegible] r a few months after marriage [illegible] rs, who can ill afford to help. [illegible] of permanent occupation. One child, aged four years. Voted £5.

Daughter, aged 50 years, of late M.D. Aberd. Has supported herself for many years by giving music lessons, but finds increasing difficulty in obtaining pupils. Is in bad health and ordered to take a rest. Voted £6.

Daughter, aged 44 years, of late L.R.C.P. Edin. Used to be a dressmaker, but employers retired from business and applicant has found it impossible to get regular work since. A little help from a friend and earns as much as possible by sewing. Relieved four times, £40. Voted £6.

Widow, aged 60 years, of L.R.C.S., L.R.C.P. Irel. Lost everything through the failure of a bank, and is now in a very precarious state of health. No income; helped by a sister, who herself has to earn a living. Relieved twice, £24. Voted £12.

Widow, aged 59 years, of L.S.A. Lets lodgings; five children but only able to give very slight help. Relieved seven times, £80. Voted £10.

Widow, aged 51 years, of L.R.C.P., L.R.C.S. Edin. Quite unprovided for at husband's death a few years ago. Obtains shelter as a caretaker but receives no remuneration. No children. Relieved five times, £46. Voted £12.

Widow, aged 64 years, of M.D. Glasg. No income and for several years has been practically dependent on this Fund and the Ladies' Working Guild. Relieved nine times, £104. Voted £10.

Widow, aged 50 years, of M.R.C.S. Eng., L.R.C.P. Edin. Kept a boarding house and nursed her husband for several years previous to his death, but is now in such bad health that she is entirely dependent on her friends and a couple of sons who are only just self-supporting. [illegible] Voted £10.

[illegible], of M.R.C.S., L.R.C.P. Has a small annuity, [illegible] that it is insufficient for unavoidable expenses. [illegible] and 12 years. Relieved five times, £72. Voted £12.

Daughter, aged 54 years, of late L.F.P.S. Glasg. Unable to obtain regular employment on account of ill health. Only income £10 a year from the Scottish Indigent Gentlewomen's Fund. Relieved twice, £24. Voted £12.

Widow, aged 48 years, of M.R.C.S., L.S.A. No income, endeavours to support herself by needlework and receives a little help from friends. Two children, aged 22 and 16 years. Relieved six times, £71. Voted £12.

Daughter, aged 52 years, of late M.R.C.S., L.S.A. No income and in very feeble health. Receives a little help from a sister. Relieved 11 times, £125. Voted £12.

Widow, aged 63 years, of M.D. Aberd. No income. Children unable to help. A little assistance from friends. Relieved eight times, £1[illegible] Voted £12.

Daughter, aged 60 years, of late M.R.C.S. Had a post as companion but was obliged to give it up to nurse two sisters who have since died. Hopes to obtain boarders and is made a small allowance by a relative. Relieved twice, £30. Voted £12.

Widow, aged 51 years, of M.D. Edin. No income. Children help as far as possible and applicant earns a little by needlework. Relieved three times, £30. Voted £10.

Mr. W. E. Sargant, St. Bartholomew's Hospital, E.C., is the honorary secretary to the Fund, and Dr. Samuel [illegible] the honorary treasurer.

MEDICINE AND THE LAW.

The Sanitary Oath.

A PRIVATE Member's Bill, having for its object the general introduction of the Scottish form of administering the oath to witnesses and others, has been introduced in the House of Commons, and apparently as it has been read a second time it may in due course become law. It is now open to a person to whom an oath is administered, if he so desires, to swear in the Scottish fashion, and thus to avoid kissing a dirty and possibly dangerous Testament. Under the Oaths Act, 1888, however, which permits this, judges and others before [illegible] oaths are administered to witnesses either do not consider themselves justified in ordering the oath to be taken in a sanitary manner or are indifferent upon the subject, and sometimes they have been inclined to be contemptuous towards witnesses who, if they desire not to kiss the Book are obliged to express their objection to doing so. The [illegible] referred to above does not do away altogether with the [illegible] form by forbidding it and by prescribing a new one in its place, but seeks to enact as follows:—

> Any oath may be taken by uplifted hand in the same form [illegible] manner in which it is usually administered in Scotland, and the [illegible] (unless the person about to take the oath volun[illegible] same in such form and manner with[illegible] that the Court or officer may [illegible] ing the witness, jury, or deponent [illegible] person in the words thereof and obtaining his or their [illegible] ce thereto without requiring the witness, jury, or person [illegible] repeat the words of such oath.

The reason is not plain for making the use of the new form permissive only, in preference to making it obligatory, at any rate in courts of law, unless objected to. In this case commissioners of oaths might have been left to follow the example set, or to continue to give those swearing [illegible] Testaments to kiss, unless they expressed preference for the Scottish form. Why anyone should prefer to kiss a book to abstaining from doing so is not clear, but the new [illegible] seems to assume that some will display this strange taste and there does not seem to be much harm in providing for its gratification. As matters stand it is apparently expected that the clause quoted above will serve the purpose desired and render the Scottish oath more or less universal, with the modification that it may be administered in the [illegible] person. In the new circumstances contemplated the [illegible] of the court will presumably commence his adjuration by saying "Do you swear by Almighty God," and the witness or juror having listened to the statement of that to which he is to bind himself will concur by saying with uplifted hand, "I do" or possibly "I swear." It would have been as clear and more convenient to have printed the [illegible] be used in the Bill instead of referring to the practice in Scotland, but Parliamentary draughtsmen seem to take pleasure in the introduction of references to existing laws and customs wherever they are possible. Allusion has been made so often in THE LANCET to the dangers arising out of kissing the Book that no more need be said here on the subject. It may, however, be useful to remind Members of Parliament who may be indifferent upon the matter, of a fact recently referred to by Mr. F. W. Lowndes, in a paper read by him at the Liverpool Medical Institution. He reminds us that some years ago Lord Collins (then Mr. Justice Henn Collins in two criminal trials heard by him, the one at Liverpool, the other at the Central Criminal Court, found that witnesses who had given evidence were suffering from syphilis, and ordered the Testaments which they had kissed to be at once destroyed. The attention thus called by his lordship to an unclean practice may be found to have contributed to its abolition, but this will have taken a long time to compass. Protests against the old method have been constantly uttered by the medical profession for more than 20 years, and none has been more persevering or more forcible in expressing them than Mr. Lowndes, to whose recent utterance on the subject reference has been made.

Liability of Hospital Governors.

The case of Hillyer *v.* The Governors of St. Bartholomew's Hospital, which came before Mr. Justice Grantham and a special jury last week, was one of a most unusual kind. The facts were briefly these. The plaintiff, a medical man, sought to make the defendants, the Governors of St. Bartholomew's Hospital, [illegible] ducting an operation up[illegible] injury to his arms by b[illegible] Owen, consulting physician of St. George's Hospital, said that he had known the plaintiff for some time. He was a man of remarkable physique. Previously to the operation he was only suffering from sciatica. He examined him after the operation. He was suffering from an injury resembling a burn on the inside of the left arm, with paralysis of that arm, atrophy of the muscles, and intense pain. The injury to the right arm was less serious, but there was reason to fear that the full use of the left arm and hand would never be recovered. One of the most elementary maxims of surgery was that the arms of a patient under an anæsthetic should not be allowed to hang down from the operating table in such a position that anything could press upon them. He saw nothing in the plaintiff to suggest that he was in the habit of taking overdoses of morphine. Malarial fever might create a predisposition to neuritis. Sciatica was a form of neuritis of the sciatic nerve, or the sheath of it, but sciatica would not predispose to neuritis in another part of the body. Neuritis was not a very usual result of a burn. Paralysis produced by pressure would show itself at once. It might last for months. The plaintiff had been for some time in 1904 and 1905 at a mine on the Gold Coast. In 1906 he had whilst in England two sharp attacks of sciatica, and in March, 1907, he went into St. Bartholomew's Hospital. He was examined under an anæsthetic. When he returned to consciousness he found his left arm absolutely paralysed and the movements of his right arm much impaired. He spoke to the warden and house surgeon and they told him that his arms had not been supported when he was under the anæsthetic, and they could not account for the burn on the left arm unless it had come in contact with the hot water apparatus. After some months his right arm got better, but he suffered such intense pain in the left arm and shoulder that he was in bed for about a year, movement being intolerable. The left arm remained atrophied and practically useless and he would never be able to practise again. His lordship said that the plaintiff had not proved a case of negligence, therefore there must be judgment for the defendants. The question of the liability of trustees and governors of public institutions in the case where negligence of the medical men they employ has been demonstrated was therefore not discussed. This point does not appear to have often come up before the high courts of this country for decision. If, therefore, the case should go to appeal, the decision would [illegible] fact that the s[illegible] with whose sa[illegible] not blind us to the other fact that the great charity of St. B[illegible] But apart from [illegible] ubt that the case [illegible] ich remains for settlement.

MEDICAL CHARITIES.—As a result of the recent performances of *The Gondoliers* by members of the Exeter Amateur Operatic Society, the sum of £100 has been handed to the treasurer of the Royal Devon and Exeter Hospital, and £50 have been given to the West of England Eye Infirmary.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

Borough of Sutton Coldfield.—Dr. A. Bostock Hill advised the closing of four schools in this district during 1908, but he adds that, except in special cases, he is not in favour of this measure, as he is satisfied that very frequently better results in the public interest can be brought about by the exclusion of definite or suspected cases. There is no doubt that no hard-and-fast rule can be laid down and that the question of school closure has to be determined after a careful consideration of all the circumstances. In a rural district, for instance, it may suffice to exclude the children from one hamlet or village or to close one department only of the school. The mistake which has been frequently made in the past is that sufficient intelligence has not been exercised in the matter, the occurrence of a few cases of infectious diseases having led forthwith to school closure. Alluding to the subject of vaccination Dr. Hill pays a tribute to the work of the vaccination officer who has succeeded in getting 324 cases out of 404 births vaccinated. But 28 parents applied for and received exemption certificates, as compared with eight in the previous year. As Dr. Hill points out, if this exemption process goes on not only will there be many more people unprotected against small-pox but the corporation will have to provide more money for isolation and treatment. This is the unfair side of this exemption business—i.e., that those who have obeyed the law and protected themselves against the disease have to pay rates for the isolation and treatment of the "conscientious" abstainers. It would be more in keeping with equity were those who were successfully vaccinated and revaccinated exempted from any payment of rates relative to a small-pox hospital. There would then be less objection to allowing the ignorant to go as they please in this matter. We want in this country a little of the backbone of the German people who have practically banished both small-pox and small-pox hospitals from their midst.

Reigate Rural District.—Dr. Arthur E. Porter has written a good report upon this district and he is evidently alive to certain matters which are not always called attention to in reports on rural districts. The subsoil in the northern portion of this district is chalk, and the medical officer of health states that a method of sewage disposal which is finding favour with property owners is to connect the interior of the cesspool with the chalk. By this is apparently meant that the cesspool is not rendered impervious or, if it is so rendered, an early opportunity is taken of rendering it pervious. As Dr. Porter observes, the arrangement is convenient but it may provide epidemics of water-borne enteric fever for subsequent generations, and he refers to a recent report of a Local Government Board inspector relative to the abandonment of chalk wells supplying what he terms a "certain East Anglian town." We have been wondering whether Cambridge is in East Anglia. Part of the Reigate district drains eventually in the Thames and the Londoner reads with pleasure of the activity of the Thames Conservancy in the matter of controlling pollution even at this distance from the intakes of the London water-supply. The immunity of London from water-borne epidemics is, having regard to the large number of sewage effluents which enter the Thames, a testimony to two things—the filtration of the Metropolitan Water Board and the purifying forces of nature. In the Reigate rural district considerable vigilance appears to be exercised over the local slaughter-houses, and Dr. Porter reports that the sanitary inspector during a house-to-house inspection of one of the parishes discovered an unregistered slaughter-house which had been in use for about 13 years. We imagine that house-to-house inspections in other rural districts might lead to similar discoveries, as well as to the detection of numerous cowsheds and dairies which have never been registered. The district council in question has adopted certain sections of the Public Health Acts (Amendment) Act, 1890, and new slaughter-houses are now only granted short terminable licences—an example which might be well followed by other rural districts.

St. Annes-on-the-Sea Urban District.—During July of last year there was in this district an outbreak of food poisoning which was attributed to the consumption of potted meat and pork pies which had been procured from a local confectioner, and the bacillus enteritidis of Gaertner was discovered in the foods. Some 80 persons were attacked, the more severe cases [illegible] nal pain, vomiting, diarrhœa, and collap[illegible] deaths. It is not quite clear how the food became affected, but possibly the assistants at this shop were first attacked by the malady and this may have infected the food. Dr. F. Booth, the medical officer of health, has drawn up some regulations for food purveyors, and doubtless such purveyors will now be kept under observation. Three cases of enteric fever were attributed to shellfish, but the dates of consumption are not furnished and the source of the shellfish is not stated. One case is attributed to defective drains. A qualified veterinary inspector was appointed last year, and one of his duties is to examine all the milch cows in the district every three months.

Plympton St. Mary Rural District.—Mr. S. Noy Scott, in referring to the subject of the medical inspection of school children, expresses regret that the county council of Devon did not appoint as school officers such medical officers of health as were willing to undertake the work. He thinks that such a procedure would have been a great step forward, as it would have prepared the way for the appointment of whole-time medical officers of health who would be independent of private medical practice or local prejudice. He regards the present position in the county of Devon as an anomalous one because he is compelled by the Local Government Board to report on, and to be to some extent responsible for, the sanitary condition of the schools; and, while he is the only legally qualified officer who can advise the district council to close the schools, there is an officer appointed by the county council to inspect the scholars over whom he has no authority.

Thingoe Rural District.—Dr. Charles Scott Kilner has instituted a house-to-house inspection of this district, a course which should prove helpful not only as regards the private houses of the poorer classes but as a means of ascertaining the presence of unregistered slaughter-houses and cowsheds. Although these house-to-house inspections in rural districts call for the exercise of great tact and discretion they cannot fail to be helpful both to the officers and to the district council, and we are glad to see that they are now becoming much more general in rural districts than was the case formerly.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeon E. R. D. Fasken to the *Terrible* and for Division of Special Service Vessels, Portsmouth.

ARMY MEDICAL SERVICE.

Colonel Jules I. Routh, half-pay list, is placed on retired pay (dated March 29th, 1909).

ROYAL ARMY MEDICAL CORPS.

Captain W. F. Tyndale, C.M.G., has been posted to the Southern Command.

TERRITORIAL FORCE.

Yeomanry.

Warwickshire: Surgeon-Major Roger Bullock is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated March 31st, 1908).

Royal Army Medical Corps.

1st West Lancashire Field Ambulance: Captain Archibald G. Gullan to be Major (dated Dec. 19th, 1908).

1st Northumbrian Field Ambulance: Arthur Gibson Dunn to be Lieutenant (dated Oct. 21st, 1908).

3rd Wessex Field Ambulance: Lieutenant Frederick Ernest Stokes, from the Royal Army Medical Corps, Territorial Force, to be Lieutenant (dated May 19th, 1908).

Lieutenant-Colonel John M. Harper is granted the honorary rank of Surgeon-Colonel (dated March 31st, 1908).

For attachment to Units other than Medical Units.—Arthur Roberts (late Lieutenant, Berkshire Imperial Yeomanry), to be Captain, with seniority as from Feb. 8th, 1905 (dated Oct. 1st, 1908). Harry Bird Sproat to be Lieutenant (dated Jan. 27th, 1909). Surgeon-Captain John Griffiths, from the [illegible] shire Battalion, The South Wales Borderers, to be [illegible] March 1st, 1909).

Unattached List for the Territorial Force.—The undermentioned officer, from the 1st Gloucestershire Royal Engineers (Volunteers), is [illegible] and precedence as in the Volunteer [illegible] 1908):—Surgeon-Major William Cox.

VOLUNTEER CORPS.

Royal Engineers (Volunteers): The Tay Division Submarine Miners: The resignations of Surgeon-Major George Owen Carr Mackness, Quartermaster and Honorary Captain John Henry Luis, and Acting Chaplain the Reverend Harcourt Morton Davidson bear date March 31st, 1908, and not as stated in the *London Gazette* of Nov. 1st, 1907.

TERRITORIAL DECORATION.

The King has conferred the Territorial Decoration upon the undermentioned officers of the Territorial Force who have been duly recommended for the same under the terms of the Royal Warrant (dated August 17th, 1908):—

Northern Command.

Infantry: 5th Battalion, The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): Surgeon-Major Edmund Vaudrey.

Royal Army Medical Corps: Major Andrew Paige Arnold.

Scottish Command.

Yeomanry: Ayrshire (Earl of Carrick's Own): Surgeon-Lieutenant-Colonel William John Naismith, D.S.O.

Royal Army Medical Corps: Lieutenant-Colonel Thomas Finlayson Dewar.

Southern Command.

Yeomanry: Gloucestershire (Royal Gloucestershire Hussars): [illegible] bert Bramwell. Warwickshire: Surgeon-M[illegible].

Royal Army Medical Corps; Captain Cecil Aloysius Corke.

Western Command.

Yeomanry: Shropshire: Surgeon-Lieutenant-Colonel John Daniel Lloyd.

Infantry: 4th Battalion, The Welsh Regiment: Surgeon-Major Evan Evans.

Royal Army Medical Corps: Major Ernest Wykeham Barnes, Major John William Ellis, and Major Alfred Rees.

TERRITORIAL MEDICAL UNITS.

The following units have been reported as having attested at least 30 per cent. of the establishment authorised, and have received the recognition of the Army Council:—Field Ambulance, 3rd Northern General Hospital, 3rd Southern General Hospital, 3rd Western General Hospital, 1st Northern General Hospital, and the 3rd London General Hospital.

TERRITORIAL FORCE MEDICAL TRAINING ORDERS.

While complimenting medical officers on the arrangements made for the Territorial troops encamped last year, the Army Council has intimated that for the future great attention must be directed to sanitary instruction and water duties. Before going to camp progressive training in all duties is to be very thorough, including mounted work and the study of ground and of danger zones, the collection of wounded, and tactical formations. General hospitals are not to attend camp this year.

The captains' course at the Royal Army Medical College has recently been extended from six to nine months.

Correspondence.

"Audi alteram partem."

MOSQUITOES AND MALARIA: A CAMPAIGN THAT FAILED.

To the Editor of THE LANCET.

SIR,—Neither the cause of sanitation nor that of truth is likely to be advanced by the article of this name published in the current issue of THE LANCET by "A Special Correspondent." I have only just seen the article, but fear that I must write at once, in the interests of both, to contradict almost every statement made in it.

The article is merely a *réchauffé* of a paper by Major S. P. James, I.M.S., read at the Bombay Medical Congress last February, but the writer of it omits to mention that in the discussion which followed Surgeon-General H. Hamilton, C.B., promptl the accuracy of I the Congress Lieutenant-Colonel H. D. Rowan, R.A.M.C., who was principal medical officer for some years at Mian Mir, and Colonel H. J. Waller Barrow, who now holds that office, have written to the Allahabad *Pioneer* and the Lahore *Civil and Military Gazette* to the same effect. I regret that I have no copy of Surgeon-General Hamilton's remarks, but I enclose the letters of Lieutenant-Colonel Rowan and Colonel Waller Barrow, and will be very glad if you, Sir, can find space to lay before your readers the sense of what they say. I may add that Colonel J. Shearer, C.B., I.M.S., principal medical officer Dajirat and Bannu Brigades, inspected Mian Mir after the Congress, and that he and Colonel R. H. Forman, R.A.M.C., principal medical officer Bombay, have furnished me with many facts which, together with those of the officers previously referred to, show that Major James's conclusions (as might be surmised by any careful critic of his paper) are completely groundless. The salient points are that the cantonment was never cleared to anything approaching the extent he pretends; that, in fact, shortly before his arrival it had been flooded for weeks by an exceptionally heavy rainfall; that an epidemic of malaria was raging all over the surrounding country; that some of the children examined by him had come to the station only a few months previously; that there is no guarantee that many of the other persons examined by him had not been infected elsewhere (the population being a military and a changing one); that he omits to mention these vital points; and that the statistics furnished by him are quite unreliable.

The writer of your article is scarcely accurate when he describes Major S. P. James and Captain S. R. Christophers as being at the time when they commenced their fiasco at Mian Mir in 1901 "two experts in the subject of malaria prevention." They were then young men who had not long been studying malaria, and I have never heard of any previous practical anti-malaria work done by them—a very different thing. Their first reports were exhaustively criticised by Colonel G. M. Giles, Captain E. P. Sewell, and myself (see *British Medical Journal*, Sept. 17th, 1904), and to these criticisms they did not reply. The more thorough work commenced by General Kitchener in 1904-05 was advised, not by them, but by Surgeon-General Hamilton and Colonel Scott Reid, I.M.S., and Major James now attempts to justify his previous failure by showing that these subsequent measures were as fruitless as his own.

To support this attitude better he states at the end of his paper that success in such operations elsewhere "has been reported on evidence that will not bear criticism and is often ridiculous." F

he referred to

Sir George Cl

and President of the Congress, to ask Prince d'Arenberg, President of the Suez Canal Company, for a full official statement of the results there; and your readers should know that Prince d'Arenberg informs me not only that he will give such particulars (which I hope may satisfy even Indian sceptics) but that he will be glad to accept a commission of inquiry at Ismailia at the most unhealthy time of the year to verify those results

It is surprising that the Sanitary Commissioner with the Government of India should not already have taken the trouble to make such an inquiry. Instead of that the Mian Mir affair *has been allowed to damp anti-malaria work in* India for five years. I have therefore suggested that the Government of India should make an impartial inquiry into the latter campaign also. It is time that the authorities obtain clear ideas on these subjects.

I must point out in conclusion that Major James's paper tends to throw as much discredit on quinine prophylaxis as on mosquito reduction. I am, Sir, yours faithfully,

University of Liverpool, April 4th, 1909. RONALD ROSS.

⁂ We have received from Professor Ronald Ross extracts from the Allahabad *Pioneer* dated March 12th and March 13th, containing letters from Colonel Waller Barrow and Lieutenant-Colonel H. D. Rowan respectively. We do not think we can attempt to summarise these communications—presumably their authors have made them as brief as they know how; but Professor Ross is right in saying that both officers regret Major James's attitude and dispute his conclusions.—ED. L.

McBURNEY'S METHOD OF CONTROLLING HÆMORRHAGE DURING DISARTICULATION AT THE HIP-JOINT.

To the Editor of THE LANCET.

SIR,—I can cordially endorse all that has been said in your issue of THE LANCET of April 3rd regarding the control of hæmorrhage during disarticulation at the hip-joint by intraperitoneal compression of the common iliac artery. Some years ago it struck me that the method suggested by McBurney was a most excellent one, and in a case of sarcoma of the femur I employed it with complete success. In the *Scottish Medical and Surgical Journal* for 1902 I gave a brief outline of this case and drew the attention of the profession to the value of the procedure. I have employed it since and feel sure from my experience of it that intraperitoneal compression of the common iliac artery in disarticulation at the hip has only to be known to be widely employed. In my cases no preliminary ligature of the femoral artery and vein was performed. This is a step which does not seem to me to be necessary. I am, Sir, yours faithfully,

JOHN MARNOCH, M.A., M.B., C.M. Aberd.

Aberdeen, April 3rd, 1909.

SPONTANEOUS CURE OF THORACIC ANEURYSM.

To the Editor of THE LANCET.

SIR,—Sir Thomas Oliver describes a case of spontaneous cure of thoracic aneurysm in THE LANCET of April 3rd, p. 971, and refers to its rarity. It may be interesting to him and others to hear of another case. I saw one when I was resident medical officer to the Royal United Hospital, Bath, in 1880. A woman was admitted with *inspiratory dyspnœa unassociated with* any alteration of the voice, and paralysis of the arytænoidæus posticus was diagnosed. There was no history of trouble in the chest and no physical signs pointing to aneurysm or intra-thoracic growth were present. Her death occurred a few days after admission, and at the post-mortem examination we were much surprised to find a perfectly cured aneurysm of the transverse portion of the arch of the aorta; the specimen was placed in the hospital museum, that splendid creation of Mr. Gore, and is probably there now. The case was never reported.

These cases are not only interesting as curiosities but have a great value as showing the possibility of cure of aneurysm of the arch of the aorta. When such cases come under our care we are apt to feel hopeless and almost helpless, but a cure is possible, and it is suggestive that in the case above mentioned the patient had not been laid up in bed—in fact, *had not desisted from* her usual work. In Sir Thomas Oliver's case the man had *only rested* for a few weeks at a time, and the other patient quoted, who lived for as long as 12 years, undertook really violent exercise, all of which rather suggests that our present method of treatment by complete rest in bed may possibly be wrong. Has anyone ever seen a cure from such treatment?

I am, Sir, yours faithfully,

REGINALD PRATT, M.D. Lond., M.R.C.P. Lond.

Leicester, April 5th, 1909.

THE CLINICAL VALUE OF HÆMOMANOMETER OBSERVATIONS.

To the Editor of THE LANCET.

SIR,—Dr. William Russell has not yet grasped the fact that the venous *blood pressure cannot* exceed the arterial, and does not know that the venous pressures which *he quotes* from Professor Starling are measured in millimetres of salt solution, while the arterial pressures are measured in millimetres of mercury and must be multiplied by 13 to compare with the venous pressures. It is useless for me to continue a discussion with him.

Dr. Oliver Williamson's records are an earnest attempt at furthering exact knowledge. I cannot accept his readings of leg and arm pressures unless made simultaneously, because it is just these cases of high pressure where there may come in effects of pain and discomfort from the armlets and effects of blocking part of the circulation. At present the question stands as one of disagreement between observers and can only be settled by extended inquiry. I shall be glad to measure with Dr. Williamson some of his cases and be convinced by him if he can convince me. I have worked too long at research to be carried away by preconceptions, and care for nought but the arrival at the truth on this matter. The fact that in the dog the systolic pressure wave is found by the Hürthle spring manometer to be higher in the femoral than in the carotid must not be lost sight of. The explanation of this which has been given is that the crest of a reflected wave is piled on top of the primary wave in the femoral. It is possible that this may occur in man, and perhaps particularly in high-pressure cases, supposing, of course, that it is not due to some undetected instrumental error. I consider, therefore, that the comparison of the column of blood (separating the two points of measurement) with the difference of the measurements a surer test than the equality of leg and arm measurements taken in the horizontal posture. I am, Sir, yours faithfully,

Loughton, Essex, April 5th, 1909. LEONARD HILL.

THE PROXIMATE FACTOR OF DELIRIUM TREMENS.

To the Editor of THE LANCET.

SIR,—In your accurate abstract of the third annual report of the Norwood Sanatorium (March 27th, p. 956), you refer to the fact that less than ½ per cent. of the 63,000 persons sent to prison for drunkenness developed delirium tremens, although in all sudden and complete withdrawal of alcohol was practised (Medical Section of Prison Statistics for 1906). You advance these statistics as an argument against the view that delirium tremens depends proximately upon a sudden fall in the amount of alcohol circulating within the system. I would submit, however, that if looked at just below the surface the figures quoted constitute evidence favourable rather than hostile to the above view.

There is a general agreement that delirium tremens is a complication which mainly, if not solely, affects the *chronic alcoholic* as distinguished from the dipsomaniac and the numerous varieties of impulsive drunkards; it is especially liable to arise in those who habitually absorb large quantities of alcohol without becoming intoxicated—at any rate, frankly intoxicated. In other words, the liability to delirium tremens is *directly* as the tolerance of alcohol which has been acquired. On the other hand, it will hardly be disputed that the liability to fall into the hands of the police for alcoholism is *inversely* as the acquired tolerance of alcohol. These propositions being conceded, a low delirium tremens rate in police cases is to be anticipated, nor does ½ per cent. seem unduly low.

It is admitted that in the great majority of cases of alcoholism, even chronic alcoholism, alcohol may be withdrawn suddenly and completely without any serious complication arising. That, however, is beside the mark. But what is to the point is the fact that when delirium tremens does arise it is always—without any exception in my experience—in circumstances which involve a large and sudden fall in the amount of alcohol in the system. The circumstances are, of course, various. The withdrawal, or comparative withdrawal, may depend upon medical treatment, as in most of the cases which occurred at the Norwood Sanatorium; or it may even be the result of a sudden effort of will on the part of the inebriate himself. I know of several examples. It may, of course, depend upon inaccessibility, as when a chronic alcoholic meets with an accident or contracts an acute illness necessitating admission to hospital. But in those cases of which it is said that the patient drank himself into delirium tremens—cases in which the drinking of alcohol continued with little interruption up to the point at which the actual delirium commenced—it will usually be found on close inquiry that the determining factor was gastric catarrh with inability to retain, and consequently to absorb, even small quantities of alcohol.

I am, Sir, yours faithfully,
FRANCIS HARE,
March 31st, 1909. Medical Superintendent, Norwood Sanatorium.

CONVENTION OF THE AMERICAN SOCIETY FOR THE STUDY OF ALCOHOL AND DRUG NARCOTICS,

HELD AT WASHINGTON, D.C., U.S.A., ON MARCH 17TH, 18TH, AND 19TH.

(FROM A SPECIAL CORRESPONDENT.)

(Concluded from p. 1012.)

The Alcohol Question in the United States.

Dr. GORDON (Philadelphia), who discussed legal responsibility in acute and chronic alcoholism, held that in chronic alcoholism responsibility is limited because of the diminution in the power of discrimination in the subject. Dipsomaniacs were entirely irresponsible. In this respect the legal test of "right and wrong" was inadequate and must give place to the medical view of anti-social acts, which asks whether the patient can really appreciate their consequences.

Dr. WILLIAMS (Washington) pointed out the evil consequences of removing from a psychopath or defective, whose very nature made him less capable of clear judgment of social relationships, the deterrent of legal punishment.

Dr. MASON agreed with Dr. Williams, and pointed out that whereas crimes of violence were increasing, more particularly in France and America, the inevitability of punishment following crime acted in Great Britain as the most powerful counter-suggestion to the sensationalism of the modern press

Dr. ROSENWASSER declared that periodic dipsomaniacs were in reality epileptic, and were therefore without responsibility. He thought that every accused person should be examined by a medical commission before appearing in court. He believed that 90 per cent. of the defectives who composed the majority of criminals were better off in jail than out.

Dr. MASON discussed very fully the urgent need of legislation for inebriates, and outlined an ideal scheme for dealing with inebriates and mental and moral degenerates as embodied in Bills at present before the Legislature and municipal councils of New York and Brooklyn.

Dr. MACDONALD (Washington) urged the importance of accurate anthropometric data.

Dr. WILLIAMS analysed the psychological bases of inebriety, their etiological and sociological factors, and the remedies for these. He classified inebriates into: 1 Suggestible individuals who were not truly inebriates until the occurrence of tissue degeneration from prolonged drinking; until this happened they were easily curable. 2 Individuals whose suggestibility had arisen by the perpetuation of the impulsiveness of the child from lack of ethical training. 3. The psychasthenically constituted, in whom the feeling of longing had turned towards satisfaction by a narcotic. By difference of environment it might have turned towards mysticism or fetichism. Whatever happened was a habit-reflex, which should have been prevented in youth The remedy was the teaching of mothers to form healthy emotional habits in their children.

Dr. QUACKENBOSS (New York) described the psychical therapeutics of inebriety as employed by him. The cure was performed by suggestion.

Dr. HUGHES (St. Louis) spoke of the neuropathic entailments following the use of alcohol, and said that as softness was a property of living cells, to maintain this the due content of water was required, of which alcohol robbed them, causing induration.

In discussing the paper, Dr. WILLIAMS pointed out that the French psychiatrists did not believe that the alcoholic psychoses were due to the direct effect of alcohol on the brain.

Dr. BERKLEY described lesions in the central nervous system which he had produced experimentally by giving alcohol to rabbits. He gave it in small doses until tolerance appeared, and then increased it until death occurred.

Dr. MASON extolled the value of such research work, and said that he proposed to provide a fund for an annual oration to the public in several large cities in order to commemorate the pioneer work of his father in placing before the public scientific facts about the deleterious action of alcohol. A leading authority would be selected each year to present to the laity the most recent work as it was completed.

Dr. WINFIELD HALL (Chicago) described his experiments upon the action of alcohol, tea, and other common poisons on tissue capacity. Against the argument that because alcohol was found by analysis in human muscle it was therefore a legitimate food, Dr. Hall quoted the experiments of Magnan, who showed that by placing muscle in 1 per cent. sodium fluoride it broke down by stages into (1) acetone, (2) acetic acid, carbon dioxide and water, (3) alcohol, carbon dioxide and water, and (4) entirely into carbon dioxide and water. The alcohol was therefore a mid-product of katabolism and it was as false to infer from this that it was a food proper to ingest as to infer the same thing of uric acid or acetone itself; all were waste products.

Dr. SPRATLING (Baltimore), in speaking of alcohol as a cause of epilepsy, from his ten years' experience in the great colony at Sonyea, New York, declared that he had studied about 1500 epileptics and could therefore speak from his own experience. He was convinced that chronic alcoholism in the parent was a fertile cause of epilepsy in the child.

Dr. CROTHERS, in discussing the paper, emphasised the need of more accurate statistics, pointing out that consideration for the family generally prevented the physician from accurately registering the alcoholic etiology.

Dr. WEBSTER (Chicago), President of the Illinois Board of Health, believed that the relation of alcohol to public health made it the most vital and baffling obstacle to the progress of man. It was as much a medical problem as that of tuberculosis, and should be let alone by fanatics and studied by biologists as a part of the reaction of man to environment. The sooner the researches of physiologists were applied in practice the more chance would there be of diminishing the enormous expenditure caused by alcohol; e g., 50 per cent. [illegible] the police arose out [illegible] the 20 per cent. of [illegible] und that the cost to municipalities was 12 million dollars per annum to dispose of preventable nuisances due to alcohol. This did not take into account loss of time and losses by premature death. Estimating the value of a life at 8000 dollars, Fisher had estimated at one billion four million dollars the loss to the United States per annum by deaths from alcohol, making a total estimated loss of two billions one hundred and forty-two million dollars. This takes no account of the fallaciousness of statistics due to concealment by family and physician, who would generally certify an alcoholic gastritis or nephritis as merely "chronic." In Switzerland and Sweden, and to a less degree in France, statistics were more reliable on account of the guarantee of medical secrecy. Dr. Webster agreed with the pronunciamento of the International Congress of 1905 upon tuberculosis, held at Paris, that to "effectively fight the great white plague it is essential to counteract the influence on the public health of taking alcohol." The medical profession should lead the way in this and avail themselves of all the help they could from such laymen as economists, sociologists, and the clergy. The need for this was apparent when statistics were studied. For whereas in 1900 the consumption of alcohol was 17½ gallons per head it had now reached the amount of 23 gallons per head per annum.

At the conclusion of the papers it was resolved to continue the semi-annual meeting and to convene it again at Washington next year. The annual meeting is always held in conjunction with that of the American Medical Association; but the time for communications and discussions is much curtailed by the section meetings. This meeting, which was supplemented by several addresses by members in the churches of Washington, proved most successful.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

The University of Bristol.

THE Bristol University Bill has been read a second time before the House of Lords. On March 25th a meeting was held at University College to discuss the advisability of forming an Association of the Alumni of the University of Bristol. The matter has already been considered informally by members of the College staff, and on the above date their suggestions were submitted to the meeting. After a brief discussion, in which the advantages derived from the existence of such associations at the Universities of Toronto and Liverpool were dwelt upon, the meeting proceeded to elect a committee to draw up rules and regulations, which will later be submitted to as representative a meeting of alumni as possible.—The claims of classical education were urged in an interesting lecture on "The Power of Antiquity," delivered at University College on March 22nd, by Professor R. S. Conway. He showed that it is a mistake to suppose that there is no room for "idealistic" or classical as opposed to "utilitarian" or technical study in the modern university, and pleaded for the establishment of a strong school of classics in the coming University of Bristol.

The Barnstaple Rural District Council and the Local Government Board.

The Barnstaple rural district council has had friction with the Local Government Board for some time past over the question of the sanitary inspection of the district, and at its meeting held on March 19th a letter was read from the Local Government Board informing the council that if it still declined to appoint two inspectors of nuisances instead of one no part of the salary of the present officer would be repaid them from the county fund. The members of the district council, after some discussion, decided to inform the Board that they did not consider two inspectors necessary. It is to be hoped that the council will reconsider its decision, for it seems impossible for one sanitary inspector to do the work of such a large area as that covered by the Barnstaple rural district council.

The Gloucestershire Infirmary and Eye Institution.

The annual meeting of the governors of the Gloucestershire Infirmary and Eye Institution was held on March 25th. The chairman (Colonel Curtis Hayward), in submitting the annual report and accounts for 1908, said that there had been increases in the number of in- and out-patients, and the cost per bed was £80, as compared with £57 7*s.* 10*d.* 20 years ago. Against an increase of £527 in the expenditure was a decline of £493 in income, and there was a deficit on the year of £1153. The committee does not think it should encroach on capital to defray current expenditure, and it states that it must either have increased financial support or reduce the work of the institution.

The Royal Hospital for Sick Children and Women, Bristol.

The annual meeting of the subscribers of this institution was held on March 29th under the presidency of the Lord Mayor. The medical report stated that during 1908 the in-patients numbered 818 (751 children and 67 women), compared with 785 (727 children and 58 women) in 1907. 3610 children and 1541 women were treated in the out-patient department, as against 3276 children and 1456 women in the previous year. The financial statement was satisfactory, and showed that as a result of a special appeal for increased subscriptions £5386 had been raised. The committee has consequently been able to discharge the adverse balance of £3998 remaining at the close of 1908, and also to defray the cost and equipment of the cottage required for the accommodation of special scarlet fever cases, and the sum of £639 has been carried forward as a small nucleus of a fund for new buildings for the out-patient department.

Hospital Sunday Fund at Bristol.

Up to April 2nd the collections in aid of the Lord Mayor of Bristol's Hospital Sunday Fund were £1853. Last year £1859 were received, and as there are still some collections to come in it is evident that the total of that year will be exceeded.

The Health of Torquay.

Dr. T. Dunlop, the medical officer of health of Torquay, in his annual report for 1908, which has just been issued, states that during the year the birth-rate was 15·4 per 1000. The death-rate was 17 per 1000, but deducting the deaths of visitors the rate was 15·7. Dr. Dunlop says that after many years of almost complete immunity from diphtheria, the borough suffered severely from it, there being 99 cases with 12 deaths. There were 114 cases of scarlet fever, but no case ended fatally. 16 cases of enteric fever were notified, with four deaths; in two instances there was distinct evidence of eating sewage-polluted shell-fish 74 deaths were due to phthisis, of which 17 were in visitors. 69 deaths occurred from cancer. The zymotic death-rate was 1·2 per 1000, against 0·73 in 1907.

April 5th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Hospital Saturday Fund.

THE executive committee of the Birmingham Hospital Saturday Fund is to be congratulated upon the report it was able to present at the annual meeting. In spite of bad times the places left vacant by the falling out of firms which had previously contributed were more than filled by new contributors, and the total collection reached the record sum of £20,516 13*s.* 1*d.*, or over £520 more than in the previous year. This is an extremely satisfactory result; it is equally satisfactory to note that the expenses of the Fund only amounted to 4·8 per cent., therefore they compare very favourably with those of other large towns. This has always been the case, and Sir Halliwell Rogers, in seconding the motion that the report should be adopted, stated that since the inception of the Fund in 1873 the total amount collected was £400,000 and the expenses for the whole period under £20,000, that is, under 5 per cent. The Fund not only contributes considerable sums to the hospitals of the city but also supports three convalescent homes, one for men, one for women, and one for children, at which during the past year 3072 patients were received. It has been suggested that the Fund should give help to the new provident dispensary scheme.

The Birmingham Lying-in Charity.

The governors of the Birmingham Lying-in Charity are making an urgent appeal for increased support. The charity is doing excellent work both in treating necessitous and deserving cases and in training midwives. The staff of the Maternity Hospital has been increased, the work done has been extended, and the training of pupils has been so successful that 32 out of a total of 34 passed the examination of the Central Midwives Board. The subscription list has been considerably increased, but a deficit of £500 18*s.* 10*d.* on the last year's work and an overdrawn bank account of £1502 14*s.* 4*d.* show that it must be still further augmented if the work of the charity is to be continued on a proper basis. Even if other appeals do not for a time receive adequate support this should not be allowed to fail, for it is a cause to which no humane person can raise the least objection and a charity which helps urgent necessity.

The Amalgamation of Societies for the Relief of Cripples.

The existence of two societies for the relief of cripples has apparently been detrimental to both, and it has therefore been wisely decided that the Crippled Children's Union and the Adult Cripples' Guild shall be amalgamated. The Crippled Children's Union possesses an income of about £1200 a year and a house and grounds, recently given to it by Mr. George Cadbury, upon which it has spent some £3000. At present the house is unfurnished, but the union of the two societies will enable the surplus money of the Adult Cripples' Guild to be utilised for the provision of furniture. In a short time the new property of the combined societies will be ready for occupation.

Medical Inspection in Warwickshire.

In Dr. A. Bostock Hill's report of the results of medical inspection in Warwickshire during the past year a few interesting points stand out. There are 257 schools in the county, but of these only 96 were visited by the assistant medical officers, who report that in 75 of the 96 the arrangements are good, while there are only a few schools in which the general arrangements must be specified as bad or very bad. On the other hand, it is stated that the great majority of schools of the county are not cleaned so frequently as they ought to be. The number of children examined was 3175, and of these over 40 per cent. were suffering from defects necessitating advice. In spite of the fact that, so far as teeth were concerned, instructions were given not to report children who had less than four teeth affected, 17·6 per cent. of the children were reported under the head of defective teeth, that is, 17·6 per cent. had four or more teeth defective, and it is probable, therefore, that the total of defective teeth would not be much less than 83 per cent., which is the average for 10,000 children spread over a large area. So far as Warwickshire is concerned, however, there is a considerable difference between the northern and southern areas, defects being more common in the south than the north. If this disproportion is still found to exist when the examination is completed, a solution of its causation should prove interesting. The other points of the report do not differ in any essential respect from those of reports from other districts.

The Walsall and District Hospital.

At the annual meeting of the general committee of the Walsall and District Hospital the chairman stated that the extensive alterations and additions which had been in progress during the last two years were now completed, placing the institution in a good condition and bringing it fairly well up to date. He expressed the hope that during the present year it would be possible to keep the expenditure within the income, but he drew attention to the existing debt and pointed out that it would be necessary to develop their resources so that the two wards which had been closed might be reopened as soon as possible.

April 5th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Minimising Abuses.

THE eightieth annual meeting of the supporters of the Manchester Children's Hospital was held on March 25th. The report spoke of the greatly increasing pressure on the time of the staff and the accommodation of the building, matters "claiming serious attention." It is well that this question of obtaining hospital medical treatment by all sorts of people, many well-to-do, others poor, and some wretchedly poor, should be taken up. Perhaps hospital abuse is not altogether the fault of the abusers, for when we see one institution competing against others in almost every large town in the country, each striving to show the largest number of patients, it is no wonder that the undeserving are as ready as those more properly speaking the fit recipients of charity, to take all they can get for nothing. It is, therefore, quite time that steps should be taken to lessen this fraud on medical charities and on the medical profession. We learn from the report that "with a view to minimise the tendency to resort to the institution on the part of persons who formerly did not do so, arrangements have been made for visiting the homes of persons living in Manchester and Salford, and inquiring into their means, with a view to eliminating those who ought not to be using the hospital." Note how delicately the point is put. The hospital is also going to charge cost price for cod-liver-oil emulsion to those who can afford to pay, but not to those who are too poor to do so. The medical report testifies to a record year's work both at the hospital and dispensary. The financial condition is anxious.

The Rigorous Temperatures of Factories.

A case of some interest and importance was heard at the Rochdale borough police court on March 24th. On Jan. 27th and 28th three waste manufacturers were summoned for "failing to take adequate measures for maintaining a reasonable temperature" in particular workrooms. Mr. Verney, factory inspector, visited the factories worked by the three defendants and found the temperature 36°, 33°, and 28½° F. There were no artificial means of heating which some firms had. The operatives at this kind of work were said to be poor and unorganised and so could not insist on better conditions. Dr. T. M. Legge of the Home Office said that the operatives ought not to be asked to work in a lower temperature than 50°. The solicitors for the three firms said it was unreasonable that artificial heat should be required, that it would be a great expense, in one case about £300, that the material would be more inflammable, and therefore more dangerous. The general plea was that no complaints were made, and that the insurance companies debarred them from using artificial heat. If there is so much danger of fire it is possibly from the great amount of dust in the air of the rooms, and this of itself is, perhaps, as bad for the health and comfort of the workpeople as the cold. One witness, when asked if he thought 36° a reasonable temperature, said, "Yes, I think they can work easily enough in that;" but to the question, "Would you like to work at that temperature?" he replied, "No, I should not," which may well be believed. The chairman said that the bench considered the temperature too low, but as these were the first cases heard in the district the small fine of 2*s.* 6*d.* and costs was inflicted in each case. Perhaps by next winter things may be better.

April 5th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The New Dykebar Asylum.

THE county of Renfrew's new asylum at Dykebar is now approaching completion, and it is expected that in a week or so part of it will be ready for the reception of pauper patients. Hitherto county patients have been boarded out at other asylums, but, the requisite accommodation at these latter places failing, the Renfrew district lunacy board were ultimately forced to provide accommodation for themselves. A purchase was made of the Dykebar estate, comprising 540 acres, situated between Paisley and Barrhead, and a suitable portion marked off for the erection of asylum buildings. The result has been the erection of one of the most complete and up-to-date establishments of its kind in the country. There are altogether ten main blocks of buildings, the chief being the central or administrative block with its two hospital wings. The most striking feature of the new asylum is that it is erected on the villa system, there being altogether four large villas, which allows of patients being segregated according to the different kinds of cases. The only other asylums in Scotland worked on this principle are Kingseat Asylum, Aberdeen, and Bangour Village Asylum, Edinburgh. The main buildings, all of red sandstone, are: administrative block of two storeys and attics, with one storey hospital wings on each side (42 beds in each wing); reception block (16 beds); laundry villa, two storeys and attics (50 beds); and three well-appointed large villas, two storeys and attics each (42 beds in each). The kitchen and laundry adjoin the administrative block and to the rear are the workshops. The accommodation will be for about 300 patients. The heating apparatus is on the Reck system and the total cost of the building is estimated at about £100,000.

Glasgow Hospital Sunday Fund.

The annual report of the Hospital Sunday Fund for 1908 has just been issued. The total income from church collections amounted to £4980, showing a decrease of £47 on the previous year. The sum set aside for the infirmaries was £4750, and this was distributed in proportion to the number of fully occupied beds in each infirmary. According to this plan the allocation was as follows: Royal Infirmary (591·3 beds), £2036; Western Infirmary (541·94 beds), £1867; and Victoria Infirmary (246 beds), £847. After meeting the working expenses this leaves a balance of £6 to carry forward to next year.

Opposition to the Acquisition of the Sidlaw Sanatorium by the Town Council of Dundee.

The acquisition of the Sidlaw Sanatorium by the town council of Dundee was opposed at a meeting of the executive committee of the Citizens Union held on March 26th. It was decided to ask the ward committees to convene meetings as urgently as possible and pass resolutions against the scheme on the ground of extravagance. It was also agreed to memorialise Lord Pentland, the Secretary for Scotland, and the Local Government Board asking that final approval should not be given to carrying through the agreement come to between the corporation and the sanatorium directors until the ratepayers of the city had had ample opportunity of considering the scheme in all its details. It is understood that the memorialists object to the mode of procedure followed by the town council and the directorate of the sanatorium in coming to an agreement, certain legal defects being alleged. The Dundee Landlords and Housefactors' Association is also opposed to the provisional order, on the ground that to change the incidence of taxation would be a breach of the agreement come to when the last provisional order was promoted, and under which it was arranged that there would be no alteration in this respect until 1914. A further meeting anent the matter was held at Auchterhouse on March 23rd. Complaint was made that Auchterhouse had in no way been consulted, as far as was known, while the matter concerned the village in several ways, drainage and water supply being mentioned. A letter was also read from Mr. D. Crichton, Dundee, who resided in Auchterhouse for several years, expressing indignation at the action of the Dundee town council in so hurriedly settling the matter, and saying that it was only possible to believe that the course was due to a desire to aid the directors to get rid of the institution under their care. Several disadvantages of the scheme were touched upon in the letter. After further discussion a resolution was submitted declaring that the scheme was a great menace to the interests and health of the district; calling upon the town council and the Airlie trustees to take measures for restricting as far as possible the number of consumptives to be treated, for confining them within the grounds of the sanatorium, for preventing the sewage of the institution from becoming in any way a nuisance or a danger to the health of the locality, and for insuring to the village a pure water-supply. The Airlie trustees were also to be asked to make no arrangements which would interfere with the present privileges of the inhabitants of Auchterhouse in regard to Auchterhouse Hill. This resolution was seconded and ordered to be communicated to the Dundee town council, county council, and the Airlie trustees.

April 5th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Mortality in Irish Towns.

THE registration figures of last week show that the number of births (238) exceeded that of the deaths by 22. The mortality among the males, however, exceeded the male births by one, while 23 more females were born than the number of deaths of members of that sex. The deaths represented a rate of 27 per 1000. This figure was exceeded in Armagh and in Cork, in each of which cities it reached 27·5 per 1000, and in Kilkenny, where it attained the rather startling figure of 34·3. The deaths in Dublin included six from measles, four from influenza, two from whooping-cough, and one each from diphtheria, enteric fever, and enteritis. The deaths from tuberculous diseases fell from 46 in the previous week to 29, 22 of which were from decline. Of the deaths of children, 53 had occurred under four years of age, including 33 infants under one year and nine under one month. Among those of riper age 27 of the deaths were of persons over 60 years, 35 of persons aged 70, while there were six octogenarians, and one (a woman) who had passed 95. The deaths in Belfast numbered 198, which included five from whooping-cough, four from diarrhœal disease, and one from diphtheria. In Cork 40 deaths occurred, including two from enteric fever and one from whooping-cough. The rate exceeded 20 per 1000 in 12 of the 22 selected districts, and was below 10 in two only of these. The lowest was in Drogheda, the record there being 8·2.

Royal Victoria Hospital, Belfast.

At the annual meeting of the governors and supporters held on March 31st it was reported that 3336 new intern and 30,041 new extern cases were treated during 1908. The total income was £15,145 11*s.* 10*d.*, while the expenditure was £15,867 17*s.* 1*d.* It was mentioned that the Royal Victoria Hospital came out 48·48 per cent. cheaper than the average cost per bed in 12 principal hospitals in London, while compared with the average of 19 provincial Scottish and English hospitals it was 17·47 cheaper. In the Royal Victoria Hospital the cost per bed was £51, so that subscribers can see there is every effort at practising economy in the working of the hospital.

Health of Belfast.

At the usual monthly meeting of the corporation of Belfast on April 1st it was reported that between Feb. 14th and March 20th the death-rate was 20·3, that from zymotic disease 0·6, while from chest ailments it was 8·2 per 1000. There is a marked reduction in all notifiable infectious diseases, especially in typhoid fever. Compared with the same period of 1908 the death-rate is lower.

April 5th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Syphilis by Tartar Emetic.

AT a meeting of the Hospitals Medical Society held on March 19th M. Queyrat and M. Demanche communicated a paper, in which they said that, following up the ideas of those who had treated sleeping sickness and various forms of spirillosis with tartar emetic, they had been trying to see if this drug had any action in syphilis. The method of administration was by intravenous injection of a 1 in 1000 solution made isotonic by the addition of 7·50 grammes per 1000 of sodium chloride. The solution was injected very slowly by means of a bulb pipette, which had been sterilised in an autoclave, and an indiarubber bulb. Thanks to these precautions the two observers were enabled to give a daily dose for 11 or 12 days of from 0·10 to 0·12 of a gramme of tartar emetic without producing any inconvenient symptoms. In the first patient, who, besides having a marked secondary rash, was suffering from commencing pulmonary tuberculosis, the treatment had to be interrupted on account of its aggravating the pulmonary symptoms. In the second patient, suffering from both macular and papular syphilides, the papules rapidly disappeared, giving place to pigmented patches. In a third patient, who was covered with syphilitic psoriasis, the psoriatic patches became transformed into large pigmented plaques. Some days after the cessation of the antimony treatment the patient was attacked by acute meningitis. Lumbar puncture showed abundant leucocytosis with polynucleosis. A course of mercury rapidly cleared up the meningitis, thereby confirming its syphilitic nature. Finally, the two observers say that the treatment by tartar emetic is, as a rule, well borne by syphilitics, that it greatly improves certain cutaneous manifestations of the disease, but that it apparently has no specific action on the progress of the disease nor any influence in retarding the appearance of complications.

The Abuse of Disinfection in Paris.

At the same meeting of the Hospitals Medical Society M. Comby raised a protest against the compulsory notification of measles and the resulting disinfection. Measles, he said, although an infectious disease, is the very last which calls for disinfection. Even though it is contagious before the rash appears, the infection lasts but a short time, and the organism cannot exist outside the body and therefore does not live in furniture, flooring, or walls. Disinfection is therefore useless. Grancher had succeeded in preventing the Academy of Medicine from including measles among the diseases to which compulsory notification should apply, but in 1903 the Academy had gone back on this decision. M. Lemoine, professor at Val de Grâce, was not only convinced of the uselessness of disinfection of dwellings in measles, but he had great doubts as to its utility in other infectious disorders. M. Courmont, the chief of the disinfection office in the department of the Rhone, said that measles should be eliminated from the list for disinfection. In Paris disinfection as carried out by the municipality had not fulfilled expectation. M. Comby concluded by saying that the Academy should revoke its decision of 1903 by taking measles out of the list of diseases for compulsory disinfection.

Sterilisation of the Skin with Tincture of Iodine.

At a meeting of the Surgical Society held on March 24th M. Walther reminded his audience of his method of sterilising the skin by means of tincture of iodine. In every case in which he had employed this method—they were mostly laparotomies—he had obtained excellent results, with primary union of the skin. He concluded his paper by giving an account of the experiments which he had made, and of the bacteriological and histological results at which he had arrived.

Cerebro-spinal Meningitis.

Last week I informed your readers that Dr. Netter had pointed out to the Academy of Medicine that Paris was threatened with an epidemic of cerebro-spinal meningitis. At a recent meeting of the Hygienic Committee Dr. Thoinot reported that since Jan. 1st there have been 51 cases in the department of the Seine. Dr. Thoinot, however, does not consider that there is a real epidemic, for the cases were widely scattered. The police authorities are taking all precautions, and the director of the Assistance Publique has issued orders that all adult cases of the disease are to be taken to the Claude Bernard Hospital and those of children to the Trousseau. The best remedy appears to be the serum introduced by Wassermann of Berlin, which, thanks to the exertions of M. Roux, has been made use of in France. Numerous recoveries have occurred under its use.

The Venoms of the Salamander and the Viper.

Madame Phisalix appears to have just made a curious discovery. She has been studying the relations which exist between the venom of the salamander and that of snakes, and on March 27th M. E. Périer gave an account of her researches before the Academy of Sciences. The venom of the salamander is a convulsant, that of the vipers, on the contrary, is a narcotic (*stupéfiante*). Madame Phisalix inoculated an animal with a dose of both poisons and to her surprise the animal remained unharmed. Salamander venom therefore, according to these researches, neutralises viper venom. The salamander, too, is immune to viper poison.

The New Morgue.

The Prefect of the Seine, after consultation with the Ministers of Justice and of Public Instruction, has just appointed a commission to draw up a complete scheme for the reorganisation of the Morgue. The commission consists of 25 members, among whom are Professor Landouzy, Dean of the Faculty of Medicine; M. Le Chatellin, Professor at the Faculty of Sciences; and M. Thoinot, medical inspector of the Morgue.

Nebulised Fluids in the Lungs.

At a meeting of the Academy of Medicine held on March 22nd M. Gauthier read for M. Cany a note on the Penetration of Nebulised Fluids into the Lungs, recording experiments which seem to show that substances in the form of spray do penetrate into the recesses of the lungs.

April 5th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The International Ophthalmological Congress.

NOWHERE are congresses, scientific and professional, domestic and international, more frequently held or more numerously attended than in Italy, where they seem to assume the place of "post-graduate courses," which, in a sense, they may be said to have anticipated. They supply, indeed, the information and the discussion which in other European countries are conveyed in medical journals—a form of professional literature in which Italy is as yet comparatively poor. Naples is to-day the seat of one of the most important and attractive of these—the Congresso Internazionale Oftalmologico, the eleventh of the series—which under the honorary presidency of the Senator Giovanni Paladino, professor of physiology and rector of the University, met this forenoon to the number of 550 in which the leading ophthalmological schools of nearly all nations were worthily represented. Addressing an audience reinforced from all the faculties of the Neapolitan seat of learning and including many of the most distinguished citizens, Professor Paladino announced a message from the King, embodying His Majesty's best wishes for the success of the "nobile riunione," followed by a congratulatory letter from the Minister of Public Instruction. From this Professor Paladino launched into a review of the progress of ophthalmological study and practice in Italy, more particularly as illustrated in Naples, beginning with Giambattista della Porta, who, after having invented the *camera oscura*, recognised (he said) "in the *globo oculare* a special *camera oscura*, thus opening up a sure pathway to the minuter study and knowledge of the physiological mechanism of vision." Having given a cordial welcome to the *congressisti* present he then declared the Congress opened in the name of the King. Next to speak was the venerable Senator Tommaso Senise, professor of pathology, who welcomed the *congressisti* on the part of the Neapolitan Medical School and expressed the hope that their presence would stimulate the *genius loci* to continuing, if not improving upon, the past achievements of Naples in ophthalmology, achievements giving honour to the names of Castorano, Del Monte, and De Vincentis. After a few cordial words from the representative of the Neapolitan municipality, Dr. de Lapersonne, professor of ophthalmic medicine in the University of Paris, spoke in the name of the foreign delegates, dwelling felicitously on the *fratellanza* of science, particularly of medicine, and evoking rounds of applause by his eulogy of the manifold attractions of Naples and of the *antiqua mater*, Italy. Finally, Dr. Angelo Angelucci, who holds the chair of ophthalmology in the Neapolitan School, rose as "working president" of the Congress to wind up the proceedings, and after a touching reference to the Siculo-Calabrian cataclysm and to the magnificent demonstration of sympathy and practical relief it had evoked from the outlying world, he concluded by auguring well for the department of medicine which the Congress represented, a Congress exceeding in numbers and in point of *personnel* not falling below the most brilliant of its predecessors. In the afternoon the special business of the day began, among the monographs presented being two of exceptional interest by Dr. Umberto Bruni of Naples, the first on "Una Speciale Cura del Trachoma" and the second on "La Correzione dello Strabismo senza Operazione."

The International Congress on Injuries to Working-men.

This Congress, the second of a series which met for the first time at Liége, will be held in Rome, under the patronage of the Italian Government, from May 23rd to 27th next. It will have two honorary presidents, Dr. Guido Baccelli, Member of Parliament and director of the Roman medical clinique, and Professor Francesco Durante, Senator of the Kingdom and head of the surgical clinique in the same seat of learning. The honorary vice-presidents are also men of light and leading, while the "acting president" will be Professor Salvatore Ottolenghi, director of the Institute of Legal Medicine in Rome. A strong executive committee in which the schools of all the divisions of the Italian kingdom, mainland and insular, Northern, Central, and Southern, are represented, has been organised to cöoperate with the two other committees, domestic and foreign, charged with the carrying out of an exceptionally interesting and comprehensive agenda paper. Those of the English-speaking world who desire to intervene at the Congress are requested to apply by letter, inclosing a postal order for 20 francs, to Professor Attilio Ascarelli, treasurer to the Congress, at 38, Via Borgognona, Rome.

The Health of the Pope.

His Holiness, I am happy to announce, is now well enough to take outdoor exercise, in spite of the weather, which continues variable, not to say inclement. On the morning of April 1st, for the first time after several months, he was able to enjoy an outing in the gardens of the Vatican. Leaving his apartments at 10.30 he crossed the Museo del Lapidario and reaching the Cortile della Pigna he walked about for half an hour. Then he entered his carriage and made a round of the beautiful demesne on which the belated spring has not yet set its mark, thereafter returning to his apartments a little before noon, not too tired to receive in private audience Cardinal Gotti and the Bishop of Macerata.

The Maladies of Prehistoric Man.

There never was a time, according to Celsus in his admirable introduction to the "De Medicina," when the healing art was not in request, and another great light of Roman literature, the poet of the "De Rerum Natura," has imagined for us the lesions of primitive man in his conflicts with wild beasts. It is, indeed, such injuries that must have first exercised the resources of medicine and made surgery the elder sister of the art—the younger being that which dealt with internal or "constitutional" disease. Of this latter, as met with in prehistoric man, the Subalpine School has recently been taking cognisance as a branch of those researches which have lately been prosecuted in Sicily and in Cyprus by the distinguished physiologist Professor Angelo Mosso. Paul Broca had already shown that tuberculosis must have been of primeval occurrence, judging from the ankylosis found in the knee-joint consequent on a so-called "white tumour," while signs of advanced caries due to a similar cause he also recognised in the lower limb. Le Baron discovered and described a jaw-bone bearing lesions consequent on cancer; but it is arthritis in every form, central and collateral, that has been most often and most clearly diagnosed. [illegible] primitive indeed but real, for the neolithic patient?" Such is the question answered in the affirmative by one of Mosso's disciples. True, the intervention of clinical surgery, as we understand it, was possible only in far more recent times. An arrow-head, for example, imbedded in a bone was not extracted, but the so-called "cure" took the form of rest and restorative nourishment for the sufferer. "White tumours" (tuberculous in origin) were allowed to cure themselves by ankylosis (as Broca pointed out)—ankylosis resulting in rigidity of the joint and limb, only obtainable by the repose and the nutriment aforesaid. Whether or not other special cures were in practice cannot be made out with certainty, though it is significant that many of the severely wounded must have survived their lesions and that a high percentage of fractures must have been conducted to complete reparation. Skeletons, moreover, are in evidence with the traces of chronic surgical maladies, maladies of long duration, which testify to the patients having been under some system of cure, protected in the struggle with the ailment or even artificially sustained during its progress. Man, even in his primeval stage, must have had some other resources to fall back upon than the *vis medicatrix naturæ*, resources the character and enumeration of which are in course of investigation by that school from which Mosso has already taught us to expect good results, embodied in the "Atti" of the local Academy of Medicine.

Messina Rediviva.

The Senator Francesco Durante, the veteran head of Roman surgery, theoretical and clinical, has just been entertained at a banquet by his colleagues, including Dr. Guido Baccelli, professor of clinical medicine, the Senator Dr. Stanislas Cannizzaro, who holds the chair of chemistry in the same school, and many other friends and sympathisers, prominent among whom were the representative of the Knights of Malta and the distinguished jurist Signor Manfredi, President of the Upper Chamber. The spokesman of the occasion was Dr. Giuseppe Sergi, professor of anthropology, who in the name of the teaching staff of the Roman school, the students past and present, and the Sicilian compatriots of the guest of the evening, gave an eloquent appreciation of the many boons conferred on science, on professional practice, and on civic life by Francesco Durante. The toast having been enthusiastically honoured the Senator Durante replied. He had all his life, he said, been devoted to the welfare and the interests of his fellow man, primarily in the alleviation of physical suffering, and it was in keeping with his past career that he should henceforth dedicate the years that might still be in store for him to the resuscitation and prosperity of his beloved Messina, so recently visited by so terrible a calamity. Dwelling with power and pathos on the theme, he invited the company to join him in drinking to "Messina Rediviva," whose regeneration, moral no less than economic, was a task of the immediate present and would be (he doubted not) a triumph of the near future.

April 2nd.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Disinfection in Vienna after Infectious Diseases.

LAST year new regulations were laid down by the health committee as regards the disinfection of household furniture and rooms in which an infectious patient had been treated, and Dr. Böhm, in a paper read before this committee, reported on the working of the new rules. All disinfections are, as a rule, carried out by order of the local magistrate and are therefore free to the public, but in special cases, when disinfection is required by a private party, a small charge is made. As regards the system in use, the disinfection of inhabited places is effected by means of a formaldehyde atmosphere, produced mostly by vaporisation or sometimes by a spray apparatus. The other usual methods are too dear, except in paid cases, and are used only in rooms where special precautions are necessary to prevent an outbreak of fire. The other chemical used is oxycyanide of mercury. Its disinfecting power (1/10—5/10 per cent. solutions are sufficient) is powerful enough to make its employment cheap; at the same time a very great advantage is found in its absolute lack of any odour, and the material (including metal) to be disinfected is not affected. The disinfecting staff receive a 5 per cent. solution and have only to weaken the liquid as required. The public, however, is not allowed to handle the substance because of its poisonous characters. Hitherto, no bad effects from this method have been noticed and the health of the men engaged in the work has not suffered. Portable personal belongings are disinfected by means of steam in special apparatus, of which there are at present six very large plants available in Vienna, all working with high-pressure steam. Special precautions are taken to prevent any possibility of the disinfecting staff themselves carrying diseases into other places. Personal cleanliness, special clothing, and baths after work are required of them. The amount of work done during the time the new rules have been in force is not small. From the end of May until the end of December, 1908, 11,649 rooms in lodgings were disinfected, and 79,387 articles belonging to 9170 persons were treated by steam with perfectly satisfactory results.

Prohibition of the Use of Yellow Phosphorus for Matches.

The Government has laid before the House of Parliament a Bill dealing with the prevention of the use of yellow phosphorus in the manufacture of matches. Austria and Japan are the only two important match-producing countries who have not signed the Convention of Bern regulating this branch of industry, and severe recriminations were directed against the Ministry of Commerce by the Labour party for this alleged neglect of the interests of the workers. A few days ago the long-expected Bill was brought in. In this the Government proposes to refuse permission for any new match factory to use the yellow or white phosphorus, and to stop the use of this material in the existing factories after July 1st, 1912. The investigations of the committee for the study of phosphorus necrosis[1] showed the deleterious effect of this manufacture upon the health of those engaged in it, in spite of very stringent precautions against poisoning. The memorandum drawn up by this committee, and presented by the Vienna Gesellschaft der Aerzte (Medical Society) to the Government, has had a very marked effect upon the decision of the latter; the Bill will be carried with a great majority.

Regulations for the Sale of Caustic Potash.

The Vienna Gesellschaft der Aerzte is also to be thanked for another important reform taken up by a specially appointed committee to prevent the frequent accidents which occur from drinking caustic potash by mistake. The investigations of the body appointed for this purpose have resulted in the adoption of a uniform strength of the solution (1·25 per cent.) as the standard solution for trade; this can be sold free from restrictions. Any stronger solution necessitates the vendor adopting certain precautions, transgression of which will make him liable to punishment. The liquid must not be sold to children under 16 years. It must be kept and sold in bottles having a different appearance from the bottles used generally for beverages. The contents of the vessel must be stated clearly on a prominent label, as well as the percentage of the liquid. The use of the potash in household work should be discouraged, according to the suggestions of the committee, by adding to it an unpleasant-smelling substance, which would also prevent people from drinking it. By order of the Ministry of the Interior the above-mentioned regulations have already been put in force. The importance of the action thus suggested by the medical corporation may be judged by a few figures. Within the last five years not less than 370 cases of injuries by swallowing caustic potash have been treated in Vienna hospitals alone. It is true, there were many cases of attempted suicide amongst them, and these persons would have selected some other means of self-destruction if they had no access to this liquid, but there were still quite sufficient persons who inadvertently partook of the poison to make precautions as to sale necessary. It be added that in the cases of poisoning, although immediate effects were not always fatal, the results often been fatal indirectly, by subsequent inanition, d œsophageal injury.

March 31st.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Pellagra in the United States.

A RECENT report of the Public Health and Marine Ho Service of the United States Treasury Department anno that a disease having the characteristics of the pella Southern Europe has appeared in the southern states a spreading rapidly. Under the auspices of the State Bo Health of South Carolina a conference was recently h which this new disease was discussed in all of its aspec every effort was made to dispel the mystery surroundi origin. It was estimated that there were at least 500 c the State of South Carolina. The theory was advance the disease is due to the use of damaged corn (maize food. The corn is rendered unfit for food by the m intensive methods of farming by which the c harvested while the grain is unripe and putrefaction as a result. This theory prevails in the Lombard Piedmont districts of Italy, the hotbed of pellagra the Italian Government has issued instructions to p this defect in the harvesting of corn. This theo denied by some members of the conference in Carolina, who asserted that from their own observation are extensive regions to-day where pellagra is rampa where corn is neither grown nor used as a food, while, other hand, there are large areas where this cereal principal article of diet, with all of its fungi and ba but pellagra is unknown. The conclusions of the con were directed towards an immediate and widespread s the disease.

Increase of Cancer in New York.

Dr. Harvey R. Gaylord, Director of the New York Cancer Laboratory at Buffalo, reports to the State ment of Health that the increase of cancer in th of New York is little short of appalling. The a death-rate per 100,000 population for 1906, 1907 1908, taken collectively, is 76, showing an increase years—from 1896 to 1909—of 28·8 per cent. Durin same period the death-rate from tuberculosis has dimi 9·1 per cent. The Director attributes the difference death-rate of these diseases to our knowledge of the tious character of tuberculosis and the well organised w which is being opposed compared with our knowle cancer. There are but three institutions in this c devoted to the study of cancer exclusively besides th York Laboratory, and the total expenditure in research by these four institutions is less than $ annually.

The Centenary of the Birth of Dr. Oliver Wendell Hol

The centenary of the birth of Dr. Wendell Holmes fa August 29th, but circumstances have induced the Cam Historical Society to select April 27th as the day of brating the occasion. One of the interesting features w the attendance of the students of the medical depar during the period that Dr. Wendell Holmes filled th fessorship of anatomy, 1841–1882. President Eliot of H University will preside, and Dr. Edward Waldo Em son of Ralph Waldo Emerson, will give the principal ad

The Prevention of Ophthalmia Neonatorum.

Ophthalmia neonatorum as a cause of blindnes attracted wide attention in this country and as a preventive measures are being advocated in many o States The most recent expression on the subject is t American Public Health Association in an elaborate r From this report it appears that about 28·69 per cent. new admissions to ten schools in eight States and Province of Ontario, Canada, in 1907, were needlessly In the Pennsylvania School for the Blind the averag centage of eight years' admissions was 33·36 of ophth neonatorum. The conclusion of the committee is tha

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[1] Vide the Vienna letter in THE LANCET, May 30th, 1903, p 1591.

Responsibility for the control of this infective disease rests with the health authorities throughout the country, and it approves of the recommendations of the American Medical Association, which are briefly: (1) the enactment of laws in each State and federal territory requiring the registration of births and placing the supervisory control and licensing of midwives in the boards of health; (2) the distribution by health boards of circulars of advice to midwives and mothers, giving instructions as to the dangers, methods of infection, and prophylaxis of ophthalmia neonatorum; (3) the preparation of receptacles containing the chosen prophylactic with specific directions for its use; (4) the maintenance of proper records in all maternity institutions and other hospitals in which children are born, of the number of cases of ophthalmia neonatorum, with the method of treatment, and the results; and (5) periodic reports to boards of health by all physicians engaged in obstetrics of the number of cases of ophthalmia neonatorum that have occurred in their practice within a specified time, what prophylatic measures were employed, and with what results.

The Administration of the Pure Food Law.

The Pure Food Law is giving rise to interesting decisions of the courts, relative to the duties of boards of health and health officers. In a suit to enjoin the city of Chicago and its officials from summarily seizing and destroying food in cold storage as unfit for human consumption, the court held that provision for a hearing before seizure and condemnation and destruction of food which is unwholesome and unfit for use is not necessary; that the [illegible] is unfit for human consumption should be summarily seized and destroyed to prevent the danger which would arise from eating it. It was contended that there was no emergency in this case requiring speedy action for the destruction of the poultry, as the food was in cold storage and would continue in the same condition for three months, and therefore the defendants had ample time to give notice to the owner and have a hearing as to the condition of the food. But the court held that if a hearing is to be always necessary the question arises as to what is to be done with the food in the meantime. Is it to remain with the cold storage company, and, if so, under what *security that it will not be removed?* As the legislature made no provision for a hearing, and as [illegible] ply protected against the party [illegible] ent action, the court sustained summary proceedings.

What is an Accident?

A physician of New York has made a claim for insurance money on the basis of an attack of appendicitis caused by [illegible] of solder. The patient, [illegible] mouth while eating his [illegible] with his teeth swallowed [illegible] cute appendicitis and at the operation the appen[illegible] a mass of solder, which lay in t[illegible] portion protruding through the [illegible] vidences that there had been any previous disease of the organ. On recovery the physician made a claim against the insurance company for an accident. Commenting on the case the surgeon, Dr. Robert T. Morris, states that in this case we have a question bearing on the matter of accident insurance which may call for a new adjudication of the word "accident," and he contends that perforation of the appendix by the lump of solder accidentally swallowed was not materially different from a perforation that might have occurred from the accidental discharge of a pistol carrying the solder as a missile.

March 26th.

NEW ZEALAND.

(FROM OUR OWN CORRESPONDENT.)

Friendly Societies and the Medical Profession.

REPRESENTATIVES of the medical profession and the [illegible] Wellington recently to try [illegible] as to fees and con[illegible] l for from the meeting, but unfortunately the hope was not fulfilled. The main point—namely, that an arbitration court might be set up which would deal with all disputes between the profession and the societies—was not finally settled. If some general agreement could have been come to regarding this it would have been an excellent thing, because the spectacle of medical men fighting unions in the lay press is never edifying. Something, however, has been accomplished in the direction of a common understanding, and perhaps another meeting will see this most desirable arrangement made secure.

The Registration of Births and Deaths.

A Committee of the Upper House, presided over by the Honourable Dr. Collins, sat and inquired into the question of whether some alteration should not be made in the matter of the registration of births and deaths. By an Act of last year it was provided that:—

> 1. It shall be the duty of the occupier of any house in which a child is born alive to give notice of the fact of the birth, the date on which it [illegible] and the name of the mother or father of the child, to the [illegible] registered [illegible] a city or [illegible] is section

Evidence was given by the Registrar-General generally against any alteration. As the law now stands registration of a death need not be made before 31 days have elapsed. One consequence of this is that a person may have been buried some weeks before he is officially dead. The scattered nature of the population was urged as a reason why it was not feasible to lessen the time; but it was pointed out that the conditions which obtained when the present law was passed did not now exist, and that there is no reason why notification of the birth or death should not be made within three days by registered post. All the medical witnesses insisted upon the necessity for an alteration in the law. The Chief Health Officer pointed out the difficulties which existed in the checking of infectious disease through the long delay. Some interesting evidence was given by a local undertaker, who assured the Committee that he always made certain that his subject was "completely dead" before he placed him in his coffin. The setting up of the Committee was occasioned by the suggestion that sometimes live persons had been interred. It would seem from the evidence given that this danger was small except in the case of so-called stillborn children. It is to be hoped that some alteration in the law may result. Several witnesses insisted that the medical man should see the dead body before he gives his certificate. This undoubtedly could easily be done in the larger centres in deference to the general feeling that the practice of giving a certificate of death on the statement of a friend or relative of the deceased is entirely wrong.

The Dentists' Association.

The annual meeting of the Dentists' Association was held in Wellington on Jan. 4th. The question of the medical inspection of school children was much in evidence and some very important data were submitted with reference to the condition of the teeth of the children attending the State schools. The President, Mr. A. Hoby, dealt very exhaustively with this matter in his presidential address. The Chief Health Officer, Dr. J. M. Mason, who presided at the opening, in the course of his speech dwelt upon the rightness of the rule which prevents members of the profession from advertising. The meeting was followed by a dinner at which several Ministers of the Crown were present.

Obituary.

By the death of Dr. R. H. Bakewell of Auckland the profession in New Zealand has lost one of its oldest members. For some time past he had been unable to do much in the way of general practice, but he always wielded a ready and sometimes sarcastic pen. Dr. Bakewell had a very varied experience. Serving as surgeon in the Crimean war he was court-martialled for writing letters to the newspapers. He then became a general practitioner in England and subsequently was appointed health officer at Trinidad. Finally he settled in New Zealand, where he practised for many years. He volunteered for service when the Boer war broke out, but whatever he was he was always a voluminous contributor to

M'Killop (P.), Sarah Anderson Jamieson Rankine (Z., C.), Marion Thompson (Z., C.), Janet Morris Walker (P., C.), and Josephine Adelaide Woods (P., C.).

The following have passed the second professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (A., Anatomy; P., Physiology; M., Materia Medica and Therapeutics):—

Thomas Adam, M.A. (A.), Mark James Aitken (P.), James Browning Alexander (P., M.), James Wallace Anderson (P., M.), Alexander John Archibald (P., M.), Charles Averill (A., P.), Thomas Stewart Barrie (A., P., M.), William Egon Halman Beard (A., P., M.), James Elliot Black (A.), Vynne Borland (P., M.), David Sands Brough (P.), Alexander Hogg Brown (A.), James Turner Brown (A., P.), Agnus Dugald Buchanan (A., P., M.), Charles Cameron, M.A. (A., P., M.), John Campbell (A., P., M.), George Wilson Clark (M.), George Cochrane, M.A. (P., M.), James Alphonsus Joseph Conway (M.), Robert Corbett Corbett (P., M.), John Nairn Dobbie (P.), Peter Drummond (A.), Kinloch Falconer (A., P., M.), James Findlay, M.A. (P., M.), Robert Findlay (M.), Thomas Scoular Fleming (A.), Hugh Forrest (P., M.), David Thomas Crichton Frew (A., P., M.), Leander Lowrie Fyfe (P., M.), Archibald Gardner (A., P., M.), Andrew Garvie (A., P., M.), John
Gordon Goudie (A., P., M.), Cecil William
John Radcliffe Grice, M.A. (A., P., M.),
(A., P., M.), James Stewart Hall (A., P., M.), Andrew Smith Hannay (P., M.), James Hendry, M.A. (A.), John Richmond Herbertson (A., P., M.), Andrew Gray Holms (P., M.), James Johnstone (A., P., M.), William Johnstone (A., P., M.), Alexander Kirkhope (A., P.), John M'Callum Lang (A., P., M.), George Smith Livingston (M.), John M'Cartney (A., P.), Norman M'Farlane (P., M.), James David Mackinnon (P., M.), William MacMurray (A., P., M.), William Wyllie
Anderson MacPhee (P., M.), Joh
Malcolm Manson, M.A. (A.,
(A.), Farquhar Matheson (A.
(A., P., M.), John Park
Meighan (A., P.), Archibald
(A., M.), Arthur Alexander Muri
(P., M.), Hugh Loudon Neil (A., P.), Hugh Paterson (P., M.), James Eric Paterson (A., P., M.), James Francis Quigley (Rutherglen) (A., P., M.), Alexander Rae (A., P., M.), Henry Charles Deans Rankin (P.), Hugh Young Riddell (P., M.), John Livingstone Scott (A., M.), William Logan Scott (P., M.), James Smith (P., M.), James Anstruther Smith (P., M.), John Ferguson Smith (A., P., M.), William Sneddon (P.), Malcolm Sommerville (P., M.), Roderick Alexanc
Stewart (P., M.), Thomas Lo
Alexander Stewart Wilson
Douglas Wilson (A., P.), Hugh
Fergus
Hay Young, M.A. (A., P., M.)

Women.—Mary Alexander (M.), Agnes Barr Auchencloss (A., P., M.), Marie Alexina Annette Beard (A., M.), Louisa Emma Dodge (M.), Isabel Inglis (P.), Jeanie Walker Jones (A., P., M.), Barbara Macgregor (A., P.), Katherine Stewart Macphail (A., P.), Ellen Brown Orr (A., P.), Barbara Grace Rutherford (A., P., M.), Christina Hamilton Shearer (P.), Isabel Jane Stark (A.), and Barbara Sutherland, M.A. (P., M.).

The following have passed the third professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (P., Pathology; and M., Medical Jurisprudence and Public Health):—

Andrew Clark Anderson (M.), Donald Arbuckle (P., M.), Charles Auld (P., M.), Robert Blackie Austin (P., M.), John Bruce Baird, B.Sc. (P.), John Broadfoot (P., M.), James Buchanan (P., M.), James Alexander Stewart Burges (P.), Thomas Simpson Campbell (P., M.), William George Clark (P., M.), Robert Hunter Deans (P., M.), James Thomson Dick (P., M.), Donald Downie (M.), Robert Drummond (P., M.), James Dunlop, M.A. (P., M.), William Deanburn Dunlop (M.), Andrew Scoble Findlay (P., M.), Thomas Lochhead Fraser (M.), Nicolas Gebbie (P., M.), Robert Gilchrist (P., M.), Pietro Giuliani (P., M.), John Gray (P.), Albert William Gregorson (P., M.), Archibald Campbell Haddow (P., M.), John Reid Haldane (P.), Allan Byars Hamilton (P., M.), William Hamilton (P.), James Jack (P., M.), James Macallan (M.), Donald Christopher Macdonald (P., M.), Ian Macdonald (P., M.), Malcolm Angus MacDonald (P., M.), William Macewen (P., M.), Alastair Macintyre (P., M.), Balfour M'Kean (P., M.), John Gladstone Mackenzie (P.), Thomas Jones Mackie (P.), William Maxwell M'Kie (P., M.), Donald Mackinnon (M.), Andrew Bruce MacLean (P., M.), William Alexander Maclennan (P.), Alexander Thomson M'Whirter (P.), Angus Millar (P.), Campbell Lamont Miller, M.A. (P., M.), Robert Stewart Miller (P.), Robert Wright Mitchell (P.), John Mowat (P.), Andrew Ross Muir (P., M.), Findlay Murchie (P.), John Paterson (P., M.), Thomas Paterson (P., M.), Richard
nman (P., M.), Arthur Poole
), John Ivison Russell (P.),
M.), James M'Alpine Scott,
M.A. (P., M.), Alexander
id Sinclair (P.), George Rae
John Torrance Weir Stewart
), Andrew Edgar Struthers
(P., M.), Charles Lindsay Sutherland (P., M.), William Oswald
Aidan Gordon Wemyss
old Edward Whitting-
(P.), George Jackson

Women.—Christina Barrowman (M.), Honoria Somerville Keer (M.), Agnes Mary M'Michael (P., M.), Margaret Muir (P.), Mary Ameli Pilliet (P.), Florence Elizabeth Sexton (P., M.), Jemima Wallac (P.), and Marion Aitken Wylie, M.A. (P.).

The following passed with distinction in the subject indicated:—

First Examination.—In Zoology and Chemistry: John Smith Kno Boyd, Frank Morton Robertson, and David Smith. In Botany William Montgomery. In Zoology: Benjamin Cohen, Wallac MacCallum Conley, M.A., Nathaniel Crichlow, William Joh Henry, and Sarah Anderson Jamieson Rankine. In Chemistry Henry Stanley Banks.
Second Examination.—In Anatomy
M.A., William MacMurray, an
Anatomy and Materia Medica anc
9 Anderso
ith Hanna
. Medica an
Therapeutics: Thomas Stewart Barrie and Hugh Paterson
Third Examination.—In Pathology: Thomas Simpson Campbel Andrew Scobie Findlay, Malcolm Angus MacDonald, Thomas Jon Mackie, James M'Alpine Scott, M.A., James Lachlan Ure, a Harold Edward Whittingham. In Medical Jurisprudence a Public Health: James Thomson Dick, James Dunlop, M.A., a William Macowen.

THE Bath board of guardians has granted *superannuation allowance to Mr. J. Davies, M.R.C.S. Eng* L.S.A., who for the past 36 years has been medical offic for the No. 1 district.

THE Paris Academy of Medicine has electe Dr. Courmont of Lyons and Dr. Oddo of Marseilles as corr sponding members. The candidate who obtained the ne highest number of votes was Dr. Collignon of Cherbourg.

MEDICAL MAGISTRATE.—The Lord Chancell has placed the name of Mr. John M. Cuthbertson, L.R.C Edin., F.F.P.S. Glasg., of Droitwich, on the commission the peace for Worcestershire.

DONATIONS AND BEQUESTS.—The Rev. Howse has by will bequeathed about £25,000 to Guy's H pital.—The late Mr. G. Smith, M.R.C.S. Eng., L.D.S., has by will, subject to a number of bequests, the residue of estate (£11,699), to be equally divided between the Ro Infirmary, Manchester, and University College Hospit London. The money is to be used for the benefit of one more of the surgical or dental staff of the institutions me tioned who may be incapacitated from their work by havi become infected by any puncture or contracted blo poisoning whilst examining or operating on patien or after conducting post-mortem examinations.—By t will of Miss Frances Margaret More £1000 are left the Royal National Hospital for Consumption and Diseas of the Chest, Ventnor, Isle of Wight, and like sums to t Adelaide Hospital, Dublin, and the Royal Isle of Wig Infirmary, Ryde. The St. Patrick's Home for Nurse Dublin, receives £500.—Mrs. Annie Tomlinson, of We Hampstead, has bequeathed £1000 to the Cardiff Infirmary.—Under the will of the late Mr. John Kershaw, F.R.C.S. Edin. a sum of about £50,000 has been left for the purpose establishing a hospital at Royton, Lancashire. The testat desires that "any such hospital and infirmary may as fa as practicable be free and open to all applicants, and tha no inquiry be made in any case as to the religious belief o applicants or whether they attend the services of any churc or chapel, also that no clergyman or minister of religion o any Socialist or person known to hold or profess Socialis opinions be at any time a trustee, director, or manager o the said hospital and infirmary."

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Medical Acts Amendment Bill.

THE text of the Medical Acts Amendment Bill, which was recently introduced in the House of Commons by Mr. COOPER, has now been issued. As was explained in THE LANCET of last week the object of this Bill is (1) to require a medical practitioner applying for registration on or after J
1911, to submit evidence of having received
practical instr
administration of anæsthetics; (2) to pro-
hibit any pe
medical practitioner administering an
anæsthetic
conditions; (3) to safeguard the rights

of all persons registered as dentists before the commencement of the Act; and (4) to prohibit any certificate of death being given in the case of any person dying under an anæsthetic.

The principal clauses of the Bill refer so directly to a subject which has engaged the close attention of the medical profession recently that they may be quoted *in extenso.* They are as follows.—

"Clause 1. On and after the *first day of January, one thousand nine hundred and eleven*, no person shall be registered under the Medical Acts in respect of any qualification referred to in any of those Acts unless he shall have produced evidence that he has received theoretical and practical instruction in the administration of anæsthetics.

Clause 2. Any person not a registered medical practitioner who shall
her person, by inhala
ixture of drugs, solid
sciousness during any
procedure, or during
childbirth, shall be liable on conviction before a court of summary jurisdiction for such offence, to a penalty not exceeding *ten pounds*, and, in the case of any subsequent conviction, to a penalty not exceeding *twenty pounds:* Provided that a person shall not be liable to a penalty under this section if in conducting such administration he was acting under the immediate direction and supervision of a registered medical practitioner, or if the circumstances attending the administration were such that he had reasonable grounds for believing and did believe that the delay which would have arisen in obtaining the services of a registered medical practitioner would have endangered life.

Clause 3 Power is hereby given to the General Council to make any regulation or order to carry out the requirements of this Act.

Clause 4 Any registered medical practitioner who gives a certificate of death in the case of any person dying while under the influence of an anæsthetic shall be liable, on summary conviction, to a penalty not exceeding *five pounds*.

Clause 5. Nothing in this Act shall prohibit a person registered under the Dentists Act, 1878, *before the commencement of this Act*, administering an anæsthetic during a dental operation or procedure"

Clause 6 provides that offences under the Bill may be prosecuted in the manner provided by the Summary Jurisdiction Acts, and lays down a corresponding procedure for Scotland and Ireland. Clause 7 defines the expressions "Medical Acts," "General Council," and "registered medical practitioner." The expression "General Council" means the General Council of Medical Education and Registration in the United Kingdom Although the Bill is called "the Medical Acts Amendment Bill" Clause 8 lays down that when passed it may be cited as "the Anæsthetics Act, 1909

Necessitous Mothers (Assistance) Bill

Mr. ROBERT HARCOURT has introduced into the House of Commons a Bill "to empower local authorities to make provision for the assistance of necessitous women in contemplation of, and after, childbirth" The Bill, which was read a first time, gives local authorities power to levy a rate not exceeding 1*d.* in the £ to assist necessitous women during pregnancy and childbirth and *for a short time afterwards with food*, medical help, and nursing, the women agreeing to comply with regulations as to ceasing work for wages and to obey the orders of the nurse or medical man appointed by the authorities.

The Medical Treatment of Elementary School Children.

The Local Education Authorities (Medical Treatment) Bill, which has been introduced into the House of Commons by Mr. WALTER GUINNESS, has the support of a large number of Members on both sides. Its object is "to provide for the recovery by local education authorities of costs for medical treatment of children attending public elementary schools in England and Wales." It has been read a first time. The Members "backing" the Bill are Mr. ADKINS, Mr. BRIDGEMAN, Lord ROBERT CECIL, Mr. FELL, Mr. HENRY GOOCH, Mr LEIF JONES Mr RAMSAY MACDONALD, Mr. MADDISON, Mr. PEEL, Mr. VIVIAN, and Mr. WHITWELL WILSON

Infant Life Protection Bill

Lord ROBERT CECIL has presented in the House of Commons a Bill "to prevent the destruction of children during birth" The measure, which has been read a first time, is backed by Mr. SHACKLETON, Mr. CHIOZZA MONEY, and Mr. SIMON.

The Superannuation of Asylum Officers in Scotland.

Sir JOHN JARDINE'S Bill to provide for the grant of superannuation allowances to officers and servants of public and district asylums in Scotland has received the support of a large number of Members sitting for Scottish constituencies It was presented and read a first time in the House of Commons on Thursday, April 1st.

HOUSE OF COMMONS.

THURSDAY, APRIL 1ST.

Deaths from Uncertified Causes in the Highlands.

Mr WEIR asked the Lord Advocate to state the number of deaths from uncertified causes in each of the Highland crofting counties during each of the last five years.—Mr. URE replied (by written answer): The information desired by my honourable friend is as follows —

Deaths from Uncertified Causes in each of the Highland Crofting Counties during each of the five years 1903-07.

County	1903	1904.	1905.	1906.	1907.
Shetland	156	126	123	86	100
Orkney	52	65	39	49	46
Caithness	45	41	41	34	44
Sutherland	92	72	90	81	98
Ross and Cromarty	327	293	304	293	307
Inverness	337	279	258	251	261
Argyll	137	99	82	93	100

Escapes from Asylums

Mr. CHIOZZA MONEY asked the Secretary of State for the Home

whether they had yet presented a report on the subject—Mr.

nected with the s
asylum boundaries
report gives also th
on the general
boundaries.

Mr. CHIOZZA MONEY in a further question asked whether the attention of the right honourable gentleman had been directed to the escape from Brookwood Asylum, near Woking, of a lunatic named Wickenden; whether this man was of a violent disposition; whether he would

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The Consolidation of Public Health Law.

Mr. REES asked the President of the Local Government Board whether the Government proposed to consolidate the law regarding public health so as to bring together in one Act the different enactments relating to this subject—Mr. BURNS furnished the following answer I appreciate the advantage there would be in consolidating the Public Health Acts, though it would probably be found necessary in the first instance to amend them in some respects. I shall be glad to take steps in the direction indicated when opportunity offers, but I do not think it will be practicable to deal with the matter during the present session.

MONDAY, APRIL 5TH.

The Ambulance Service of the Metropolis.

In reply to Sir WILLIAM COLLINS, the Secretary of State for the Home Department stated that the valuable report presented by the committee on this subject had been received, but owing to the pressure of current work he could hold out little hope of dealing with the main recommendations, which involve legislation, in the present session.

Housing and Town Planning Bill.

Mr BURNS, in moving the second reading of the Housing and Town Planning Bill, said that it was a new departure in legislation and he regretted that it had been so long delayed The lack of some such measure 50 or 100 years ago affected the physique, the morals, the

recently one half of them had no medical officer The Bill laid down that every county council sho

erty which might be owned

his speech that one of the
t went—was that the Local
was to be a medical officer
of the best things that could
alth and he had contended
for it for some years The county councils would now have a special expert to guide them in regard to the very difficult and responsible duties which devolved upon them with regard to public health and housing. Medical officers of health

had been doing good work, many of them under difficulties and in face of the opposition of those who employed them. He was therefore glad that they were to have a security of tenure, that they were not to be dismissed except with the consent of the Local Government Board, and that they would be whole-time officers. However, these conditions were not to be given to the medical officers who had been appointed for the smaller local authorities—some of them at salaries of £20 or £30 a year. These men had had a hea [illegible] They were the weaker links in the chai [illegible] The county medical officers were the [illegible] the right honourable gentleman could [illegible] these weaker links in the chain. Howev [illegible] of tenure and the right of appeal to the Local Government Board in case of wrongful dismissal, he would be doing a great work. In some smaller rural and urban districts at the end of 12 months a medical officer was dropped because he [illegible] of interfering in the interests [illegible] members of the council who [illegible] gentleman knew that there were cases where medical officers were not reappointed by district councils because they were doing their best to bring about a better state of housing in the district. That was a scandal which ought to be removed, and could be removed by a stroke of the pen if the right honourable gentleman would consent to insert a provision in the Bill giving these medical officers the right to appeal in cases of dismissal. At the present time medical men had a kind of union by means of which they were trying to prevent members of their profession from taking up appointments from which others had been wrongfully dismissed. To give a right of appeal to these medical officers against wrongful dismissal would be a great step in advance, and would render them more independent and able to discharge their duties according to their conscience. He hoped that a number of amendments would be inserted in the Bill to give effect to the views which he had put forward on this subject.

Mr. Lane Fox moved a reasoned amendment to the motion for the second reading, declining to throw fresh charges on the local rates.

Mr. Hicks-Beach seconded.

Sir J. Dickson Poynder thought that the provision with regard to medical officers of health was one of the most important in the Bill. The Bill in its revised form established them on much more favourable terms than were originally proposed. The medical officer of health for the county had now under the Bill power to go all over the county area and inspect wherever he desired exactly on identical lines with the medical officers of health in the districts. This would give a great incentive to the exposure of bad sanitary conditions in country districts. As there was to be a Committee of Public Health and Housing attached to every county council there would be a regular established system supervising public health and housing in the counties, which was bound to improve the conditions.

After considerable discussion the amendment was defeated by 128 votes to 20, and the Bill was read a second time.

BOOKS, ETC., RECEIVED.

Alcan, Félix, Paris.

Le Diabète Sucré. Par R. Lépine. Price Fr.16.

Baillière, Tindall, and Cox, London.

Operative Nursing and Technique. By Charles P. Childe, B.A., F.R.C.S. Eng. Price 4*s.* net.

Differential Diagnosis of Bacteria and Practical Bacteriology. By E. P. Minett, M.D., D.P.H., M.R.C.S., L.R.C.P., F.C.S. Price 2*s.* 6*d.* net.

Aids to Medicine. By Bernard Hudson, M.D. Camb., M.R.C.P. Lond. Price, cloth, 3*s.* net; paper, 2*s.* 6*d.* net.

Bale (John), Sons, and Danielsson, Limited, London.

Tuberculin in Diagnosis and Treatment [illegible] Roepke. Translated from the Second [illegible] Morland, M.B., B.Sc. Lond., M.D. Ber[illegible]

Bohn, F. (De Erven), Haarlem. Fischer, Gustav, Jena.

Die Krankheiten der Leber, der Gallenwege und der Pfortader auf Grund eigener Beobachtungen. Bearbeitet von Prof. Dr. P. K. Pel. Price M.8.

Dental Manufacturing Co., Limited, London.

Dental Surgery Notes. By Ernest B. Dowsett, L.R.C.P., M.R.C.S., L.D.S. Price 3*s.* net.

Deuticke, Franz, Leipzig und Wien.

Die Selbstmorder. Mit Besonderer Berücksichtigung der Militärischen Selbstmorder und ihrer Obduktionsbefunde. Von Privatdozent Dr. Anton Brosch. Price M.7.20.

Engelmann, Wilhelm, Leipzig.

La Renaissance de l'Ophthalmologie. Par le Dr. Julius Hirschberg. Traduit de l'Allemand par le Dr. Daniel van Duyse. Price M.6.

Fischer, Gustav, Jena.

Handbuch der Gesamten Therapie. In Sieben Banden. Herausgegeben von Dr. F. Penzoldt und Dr. R. Stintzing. Vierte Auflage des Handbuchs der Therapie innerer Krankheiten. Zweite Lieferung. Price M.4.50.

Frowde, Henry, and Hodder and Stoughton, London.

Oxford Medical Publications. Studies on Immunity. By Robert Muir, M.A., M.D. In Collaboration with Carl H. Browning, M.D., Alexander R. Ferguson, M.D., and William B. M. Martin, M.B., Ch.B. Price 7*s.* 6*d.* net.

Suture of Arteries. An Experimental Research. By R. Archibal Smith, M.B., Ch.B., Victoria University, F.R.C.S. Eng. Pri 2*s.* 6*d.*

Hirschwald, August, Berlin.

Der Schiffsarzt. Leitfaden für Aerzte und Kandidaten der Mediz Von Dr. M. Brenning und Dr. E. H. Oppenheimer. Price M.1.

Lewis, H. K., London.

Practical Bacteriology, Blood Work, and Animal Parasitolog including Bacteriological Keys, Zoological Tables, and Explana tory Clinical Notes. By E. R. Stitt, A.B., Ph.G., M.D., Surgeon, U.S. Navy. Price 6*s.* 6*d.* net.

Lippincott Company, J. B., Philadelphia and London.

Principles and Practice of Operative Dentistry. By John Sayr Marshall, M.D. Syr. Univ. Third edition. Price 21*s.* net.

Longmans, Green, and Co., London, New York, Bombay, and Calcutt

The Influence of Heredity on Disease, with Special Reference Tuberculosis, Cancer, and Diseases of the Nervous System Discussion opened by Sir William S. Church, Bt., K.C.B., M.D Sir William R. Gowers, M.D., F.R.S., Arthur Latham, M.D., a E. F. Bashford, M.D. (From the Proceedings of the Royal Soci of Medicine, 1909, Vol. II.) Price 4*s.* 6*d.* net.

Mittler, Ernst Siegfried, und Sohn, Berlin.

Medizinal-Berichte uber die Deutschen Schutzgebiete, Deut Ostafrika, Kamerun, Togo, Deutsch- [illegible] Karolinen, Marshall-Inseln und Sa [illegible] Herausgegeben vom Reichs-Kolonialа [illegible]

Mosby (C. V.) Medical Book and Publishing Co., St. Louis.

Tuberculosis of the Nose and Throat. By Lorenzo B. Lock M.D. Price not stated.

Nisbet, James, and Co., Limited, London.

Essays on the Position of Abdominal Hysterectomy in Londo John Bland-Sutton, F.R.C.S. Eng. Price 2*s.* 6*d.* net.

Open Road Publishing Company, The, London.

Morals and England. By Frederic Fletcher. Price 1*s.* net.

Pharmaceutical Press, The, London.

The Pharmaceutical Pocket Book, 1909. Edited by John Hump Price not stated.

Rebman, Limited, London.

Surgery of the Upper Abdomen. In Two Volumes. By Jo Deaver, M.D., LL.D., and Astley Paston Cooper Ashhurst, Vol. I., Surgery of the Stomach and Duodenum. Price 21*s.* n

Surgical Diseases of the Abdomen, with Special Referenc Diagnosis. By Richard Douglas, M.D. Second edition, re and enlarged. Edited by Richard A. Barr, B.A., M.D. 26*s.* net.

Elementary Practical Treatise on Diseases of the Pharynx Larynx. By Dr. E. J. Moure. Translated and adapted J. Malcolm Farquharson, M.B., F.R.C.P. Edin. Price 12*s.* 6*d.*

Richards, Grant, London.

The Birds of the British Islands. By Charles Stonham, C.M F.R.C.S., F.Z.S. With Illustrations by Lilian M. Medland, F. In Twenty Parts. Part XIII. Price 7*s.* 6*d.* net.

Routledge, George, and Sons, Limited, London. (Dutton, E. and Co., New York.)

The Family Doctor. A Dictionary of Domestic Medicine Surgery. By Edmund Barrett, M.B., B.S. Durh., M.R. L.R.C.P. Lond. Price 5*s.*

Saunders (W. B.) Company, Philadelphia and London.

Epoch-making Contributions to Medicine, Surgery, and the A Sciences. Being Reprints of those Communications which conveyed Epoch-making Observations to the Scientific W together with Biographical Sketches of the Observers. lected by C. N. B. Camac, A.B., M.D. With Portraits. P 18*s.* net.

Siegle, Hill and Co., London.

The Therapeutics of Radiant Light and Heat and Convective H By William Benham Snow, M.D. Price 10*s.* 6*d.* net.

Sisley's, Limited, London.

The Over-Production of Women and the Remedy. By Mrs. Er Price 2*s.* 6*d.* net.

Smith, Elder and Co., London.

Saint Bartholomew's Hospital Reports. Edited by H. Mo Fletcher, M.D., and W. McAdam Eccles, M.S., F.R. Vol. XLIV. Price 8*s.* 6*d.* net.

Spottiswoode and Co., Limited, London.

The Medical Register. 1909. Price 10*s.* 6*d.*
The Dentists' Register. 1909. Price 3*s.* 4*d.*

Steinheil, G., Paris.

Pratique de la Chirurgie Antiseptique. Leçons professées à l'Hô Dieu. Par le Docteur Just Lucas-Championnière. Price Fr.8

University Press, Manchester. (Sherratt and Hughes, London.)

Malaria and Greek History. By W. H. S. Jones, M.A. To which is added the History of Greek Therapeutics and the Malaria Theory. By E. T. Withington, M.A., M.B. Price 5s. net.

Walter Scott Publishing Co., Limited, London and Felling-on-Tyne.

Hypnotism. By Dr. Albert Moll. Translated from the Fourth enlarged Edition by Arthur F. Hopkirk. Price 6s.

Watkins, John M., London.

Nutrition and Evolution. By Hermann Reinheimer. Price 6s. net.

Wright, John, and Co., Bristol.

The Medical Annual. 1909. Price 8s. 6d net.

Wright, John, and Sons, Limited, Bristol. (Simpkin, Marshall, Hamilton, Kent, and Co., Limited, London.)

Health, Morals, and Longevity. By George Gresswell, M.A. Oxford and Cape, L.R C.P. and S. Edin, L F P.S.G, and Albert Gresswell, M.A., M.D., Oxford, M.R.C S, F R.S.M. Price 5s. net.

Appointments.

Succ[illegible]itutions, [illegible] mn, are [illegible] the Sub- [illegible] of each

Bateson, Henry, M.D., C.M. Edin, has been appointed Medical Officer for the Walkden and Worsley Districts by the Barton Board of Guardians.

Stiff, Harold, M.B. Cantab., has been appointed Surgeon to the West Suffolk Hospital, Bury St. Edmunds.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Ashton-under-Lyne District Infirmary.—Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, washing, &c.

Birkenhead Union Infirmary and Sanatorium.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

Birmingham General Dispensary.—Resident Surgeon, unmarried. Salary £170 per annum, with rooms, fire, lights, and attendance.

Bradford Children's Hospital.—House Surgeon. Salary £100 per annum.

Bristol General Hospital.—House Physician, Casualty House Surgeon, and Assistant House Physician for six months. Salary £60, with board, residence, &c.

Brixton Dispensary, Water-lane, S W.—Resident Medical Officer, unmarried. Salary £150 per annum, with apartments, attendance, &c.

Brown Animal Sanatory Institution.—Superintendent. Salary £300 per annum.

Burslem, Haywood Hospital.—Resident Medical Officer (female). Salary £100 per annum, with board, residence, and laundry.

Bury Infirmary.—Junior House Surgeon. Salary £80 per annum, with *board, residence, and attendance.*

Bury St. Edmunds, West Suffolk General Hospital.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

[illegible] Salary at rate of [illegible]

[illegible] Hendon, N.W.—Salary £110 per [illegible]

Croydon General Hospital.—Honorary Medical Officer of the Ear, Nose, and Throat Department.

Dumfries and Galloway Royal Infirmary.—House Surgeon and Assistant House Surgeon. Salaries £80 and £40 per annum respectively, with board and washing.

Eccles and Patricroft Hospital.—House Surgeon, unmarried. Salary £60 per annum, with board and washing.

Hampstead General Hospital.—Medical Officer in charge of the X Ray and Electrical Department. Salary 25 guineas per annum.

Hartlepools Hospital.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

Hastings, St. Leonards and East Sussex Hospital.—Physician. Also Assistant Physician.

Hospital for Consumption and Diseases of the Chest, Brompton.—Resident House Physicians for six months. Salary £25.

Hospital for Sick Children, Great Ormond street, London, W.C.—House Surgeon; also Assistant Casualty Medical Officer; both unmarried, for six months. Salary in each case £30, with board and residence.

[illegible]

Lambeth, Parish of.—District Medical Officer. Salary £50 per annum, with fees.

Lanark Middle Ward Isolation Hospital, near Motherwell.—Physician Superintendent. Salary £200 per annum, with board, &c.

Lincoln Hospital for Mental Diseases.—Assistant Medical Officer. Salary £100 per annum.

London County Council Girls' Industrial School, 56, Brixton Hill, S W.—Medical Officer. Salary £45 per annum. Also Dentist. Salary £15 per annum.

Macclesfield General Infirmary.—Junior House Surgeon. Salary £60 per annum, with board and residence.

Manchester, Chorlton-upon-Medlock Dispensary.—Resident Medical Officer, unmarried. Salary £120 per annum, with rooms and attendance.

Manchester Workhouse, Crumpsall.—Assistant Medical Officer, unmarried. Salary £130 per annum, with apartments, washing, and attendance

Northampton General Hospital.—House Surgeon, unmarried. Salary £90 per annum, with apartments, board, washing, and attendance

Oldham Infirmary.—Junior House Surgeon. Salary £75 per annum, with board, residence, and washing.

Paddington Infirmary and Workhouse.—Medical Officer for six months. Salary at rate of £72 per annum, with board, lodging, and washing.

Peckham House, Peckham, S.E.—Second Assistant Medical Officer Salary £150 per annum.

Poplar Hospital for Accidents, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

Prince of Wales's General Hospital, Tottenham, N.—House Surgeon, House Physician, Junior House Surgeon, and Junior House Physician, all for six months Salary of two former at rate of £75 per annum, and of two latter at rate of £40 per annum, with residence, board, and laundry.

Royal London Ophthalmic Hospital, City-road, E.C.—Assistant Surgeon.

Royal Naval Medical Service.—Examination for 15 Commissions

Royal Waterloo Hospital for Children and Women, Waterloo Bridge-road, Lambeth, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.

Royal Westminster Ophthalmic Hospital, King William-street, Strand, W.C.—House Surgeon for six months. Salary £25, with board, residence, and laundry.

Samaritan Free Hospital for Women, Marylebone-road, N.W.—Clinical Assistants.

South Shields, Ingham Infirmary and South Shields and Westoe Dispensary.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing.

Southampton, Royal South Hants and Southampton Hospital.—House Physician Salary £100 per annum, with rooms, board, and washing.

Swansea General and Eye Hospital.—House Physician. Salary £75 per annum.

Torquay, Torbay Hospital.—House Surgeon. Salary £100 per annum, with residence and board

Victoria Hospital for Children, Tite-street, Chelsea, S.W.—Physician to Out patients.

Wakefield, Clayton Hospital.—Junior House Surgeon, unmarried. Salary £80 per annum, with board, lodging, and washing.

West London Hospital, Hammersmith-road, W.—Physician. Also Assistant Physician.

Births, Marriages, and Deaths.

BIRTHS.

Morley.—On April 5th, at 29, Gower-street, Bedford-square, the wife of Arthur S. Morley, F R C S, of a daughter.

Smyth.—On March 30th, at Digby House, Melton Mowbray, the wife of James A. Smyth, M.B., of a son

MARRIAGES.

[illegible] at Christ Church, Turnham Green, [illegible] Dickey, M.R C S. Eng, L.R C P. [illegible] daughter of Mr. and Mrs. Charles [illegible]

DEATHS.

Geoghegan.—On April 2nd, after a long illness, Alfred Osmond Geoghegan, M.D, Lieutenant-Colonel, R.A.M C (retired), in his 53rd year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

SOME CHEMICAL REASONS FOR DETERIORATION IN LIQUID MEDICINES.

IN *Merck's Report* for March Mr. Frederic E. Niece calls attention to a number of chemical substances which do not keep well in solution. Chloroform water readily decomposes under the influence of heat, light, and air with the formation of acid by-products and the development of odours resembling those of phosphoretted hydrogen or decomposed marine algæ. The addition of 4 per cent. of alcohol is sufficient to keep this preparation indefinitely. Solutions of iodoform in chloroform are less stable than alcoholic solutions, because chloroform acts as a carrier of oxygen which liberates iodine in the solution under the influence of sunlight. Chloroform itself is decomposed in the presence of iodoform and the by-products tend to react with the iodine. Solutions of potassium iodide show the presence of free iodine within a very short time and afterwards potassium iodate, and so become a source of trouble from incompatibility and by producing unpleasant symptoms after administration. These changes may be retarded by keeping the solution in a cool, dark place, in full bottles, and by adding 0·2 per cent. of sodium thiosulphate. Ammonium iodide likewise readily forms free iodine when kept in solution, but the change may be lessened or prevented by the addition of a few drops of diluted ammonia. The decomposition of solutions of sodium hypobromite is a constant source of annoyance to many practitioners, owing to the deeper colour and loss in strength produced by the solution of traces of manganates from amber bottles. To prevent this change it is advisable to store the solution in green, blue, flint, or paraffin bottles with the addition of 10 per cent. of potassium bromide. The red colour produced in solutions of salts of eserine is caused by the combined action of light, atmospheric oxygen, and alkali present in the glass. This difficulty may be partially, if not completely, overcome by keeping the solution, prepared with sterile distilled water, in the dark in bottles coated on the inside with paraffin wax. As a further precaution Mr. Niece recommends the practice of covering the solution with a layer of washed and boiled liquid paraffin. This method is generally applicable in the case of sensitive and costly chemical substances which it is desired to keep in solution. [illegible] to withdraw the solution from beneath the paraffin layer it is necessary to use a pipette, and since a solution of eserine is generally used for eye lesions the presence of a trace of oil is not objectionable. Solutions of lead acetate form heavy white precipitates of lead carbonate on exposure, unless restrained by the presence of a trace of acetic acid. These illustrations serve to show the dangers that may lurk in bottles of solutions and stock mixtures which have been kept for some time.

A SUGGESTION FOR TREATMENT.

To the Editor of THE LANCET.

SIR,—In reference to the treatment of the case mentioned by your correspondent "Perplexed" in THE LANCET of Feb. 20th, p. 589, allow me to suggest that he try ovarian extract. He states that the attacks seemingly have nothing to do with the menstrual period, but ovulation does not necessarily occur simultaneously with menstruation, and taking into consideration the age of the patient, I imagine that the headaches may be due to the approaching menopause. In two cases presenting somewhat similar symptoms I have been able to give relief by administering ovarian extract in five-grain doses three times a day for about a week at a time. Sometimes it was necessary to give it for a longer period, but I allowed myself to be guided by the symptoms.

A young woman, aged 26 years, on whom a panhysterectomy had been performed, consulted me complaining of severe headache. She had been treated by several practitioners, including an ophthalmologist, and had been given all kinds of treatment, including morphine, but without any permanent relief. I prescribed ovarian extract and the headaches became progressively less severe. Instead of being confined to bed for one week out of every month she gradually improved till by taking the remedy for a day or two she could avert an attack. The attacks in this case were preceded by "nervous" symptoms such as frequently usher in a menstrual period. I believe that the headache was due to loss of the internal secretion of the ovaries, and in my opinion in many cases the headaches occurring at the menopause are due to the same cause. I trust that this may be of service to "Perplexed."

I am, Sir, yours faithfully,

M.D.

Chicago, U.S.A., March 15th, 1909.

ACCIDENTS TO RAILWAY SERVANTS.

WE have received from Mr. T. A. Brockelbank a copy of a pamphlet dealing with a large number of accidents occurring among railway servants and advocating the adoption by English railways of automatic couplings. The figures in the pamphlet are very impressive and bring before us well the risks which have to be run by the employees of railways.

WE have had forwarded to us a metal "school box" for the use of children. It is a flat box made of tinned iron, and measuring 9½ inches by 2 inches by ½ inch. Inside are metal partitions which divide it into convenient spaces for pen, pencil, and ruler. The box, which is made by the South Wales Canister Company, is stamped with the name, "Cymric Aseptic School Box." It could undoubtedly be made aseptic by boiling, but we fear that its normal contents will hardly be aseptic when in use. We would also suggest that if the "tin" edges of the box should damage the hands of its owner the advantage of its asepticity would very likely be counterbalanced by the complexion of the aforesaid hands. A wooden box, even though not aseptic, will to many seem preferable for the reception of the child's implements of learning as less likely to cause any abrasion.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—Arthur Whitfield, E. G. Graham Little): at 5 P.M.

Exhibition of Cases.

FRIDAY.

ELECTRO-THERAPEUTICAL SECTION (Hon. Secretary—Reginald Morton): at 8.30 P.M.

Dr. Sloan: Vulvo-vaginal Electrode for Ionic Medication.

Mr. T. J. Bokenham: Treatment of Hæmorrhoids by Zinc Mercury Ionisation.

Mr. N. S. Finzi: Treatment of Ulcers by Ionic Medication.

Dr. Horace Manders will show an Apparatus for the Production of Continuous Oscillations.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

WEDNESDAY.—8.30 P.M., Surgeon K. D. Bell, R.N.: Physical Training and the Medical Profession.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., Demonstration:—Dr. F. Thomson: Infectious Fevers (at the North-Eastern Fever Hospital, St. Ann's-road, N.).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel).

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.

TUESDAY.—5 P.M., Clinical Demonstration: Dr. J. Mackenzie.

WEDNESDAY.—3 P.M., Clinical Demonstration: Dr. F. Palmer.

THURSDAY.—3 P.M., Clinical Demonstration: Dr. T. D. Savill.

FRIDAY.—2 P.M., Clinical Demonstration: Dr. P. Stewart. 5.30 P.M., Clinical Demonstration: Dr. E. Macnamara.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Mr. C. Nourse: Middle Ear and Labyrinth.

FRIDAY.—3.45 P.M., Lecture:—Mr. C. Nourse: Middle Ear and Labyrinth.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., Dr. L. Braddon (Seremban) and Dr. A. R. Wellington (Singapore): The Etiology of Beri-Beri.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2 30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's [illegible] (2.30 P.M.), London Throat [illegible] 2.30 P.M.), Throat, Golden- [illegible]), Chelsea (2 P.M.), Central [illegible] ildren, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (14th).—[illegible] versity College (2 P.M.), Royal Fre [illegible] Charing Cross (3 P.M.), St. Thom [illegible] King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), West- [illegible] Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (15th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), *University College* (2 P.M.), *Charing Cross* (3 P.M.), St. G [illegible] (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. [illegible] Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (17th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2 30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 7th, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall	Solar Radio in Vacuo	Maximum Temp Shade	Min Temp.	Wet Bulb	Dry Bulb	Remarks.
April 1	29 86	N.	...	53	45	44	43	44	Overcast
" 2	30 47	N.E.	...	90	48	34	36	40	Fine
" 3	30 50	E.	...	88	53	38	38	41	Fine
" 4	30 46	E.	...	95	54	36	42	46	Fine
" 5	30 31	E.	...	97	53	37	39	42	Fine
" 6	30 32	E.	...	97	58	38	42	44	Fine
" 7	30 42	E.	...	87	58	39	42	45	Fine

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The Goulstonian Lectures

ON

SOME DISORDERS OF THE CEREBRAL CIRCULATION AND THEIR CLINICAL MANIFESTATIONS.

Delivered before the Royal College of Physicians of London on March 11th, 16th, and 18th, 1909,

BY ALFRED E. RUSSELL, M.D. LOND., F.R.C.P. LOND.,
PHYSICIAN TO OUT-PATIENTS, ST. THOMAS'S HOSPITAL.

LECTURE III.[1]

Delivered on March 18th.

MR. PRESIDENT AND GENTLEMEN,—Finally, the subject has been studied experimentally by various observers. The blood-supply to the brain of animals has been cut off and the effects produced on allowing the circulation to return have been studied. One of the most exhaustive studies has been made by Messrs. Stewart, Guthrie, Burns, and Pike.[2] Their experiments were performed on cats. The animals were anæsthetised with ether. Ligatures were placed round the innominate and the left subclavian artery proximal to the origin of the vertebral artery, the blood-flow being stopped by traction on the ligatures. Artificial respiration was kept up. There is, however, an important distinction between their experiments and the results obtaining in the cases here described. In the experiments the blood flow was cut off from the brain and medulla only, the circulation in the greater part of the cord and in the trunk and lower extremities remaining, whereas in the cases described in the last lecture the whole circulation of necessity came to an end.

Muscular movements.—There was usually a sudden stiffening of all the muscles following occlusion, with violent movements of fore and hind limbs and tail. Micturition and defæcation might occur. Then the fore-limb movements ceased, shortly afterwards the hind limbs relaxed and the whole animal lay limp and quiet until after the restoration of the cerebral circulation. The cerebral circulation was allowed to return after varying periods and the effects were noted.

Respiration.—The first sign of returning vitality in the respiratory centre was a strong gasp. This was repeated at progressively shorter intervals until spontaneous breathing was established. The first gasp might occur at a long interval after the restoration of the circulation. Thus, after an occlusion of 28 minutes the first gasp occurred 40 minutes after release.

Convulsions.—Convulsions varying in severity from occasional twitchings of the limbs to extreme opisthotonos and violent struggles of tonic or clonic type sometimes begin before the full return of the reflexes. Occasionally the cat may lie quiet for one to three hours before the convulsions begin. The head may be drawn back in extreme opisthotonos or may be bent downwards with the back convex. There may be tonic spasm of the fore limbs and clonic spasms of the hind limbs. Again, there may be violent clonic spasms in which the animal flings itself about from one side of the room to the other. The convulsions may follow in such rapid succession as to make it difficult to distinguish any interval between successive seizures.

THE TIME LIMIT OF THE RECOVERY OF THE BRAIN FROM ARREST OF THE CIRCULATION.

In the experiments on cats no animal recovered after a longer period of occlusion than 16½ minutes, though in one case after 22 minutes' occlusion the animal recovered without loss of intelligence but with paralysis of one fore limb, death following, however, from pneumonia on the seventh day. But these experiments did not impose so severe a test as in cardiac inhibition in man, for the heart remained beating during the whole period of occlusion of the cerebral arteries, so that the life of the spinal cord and of the rest of the body was not interfered with. The integrity of the spinal cord was found to be essential to recovery, transection in the upper dorsal region being incompatible with the resuscitation of the cerebral centres. In the cases recorded in man the spinal cord suffered from the same arrest of blood-supply as the brain, and though this might not be so severe an injury as transection it would presumably materially diminish the chances of recovery. It is difficult to say for what period the brain can withstand the total arrest of its blood-supply and the patient make a complete recovery. In one case of chloroform syncope the heart appeared to be completely arrested for seven or eight minutes before direct cardiac massage was commenced. A disaster such as chloroform syncope is not conducive to accurate observations of time, and it is probable that the heart gave some beats under the artificial respiration, &c., applied during this period, but it was motionless when massage was begun and five minutes elapsed before its contractility was restored. Some blood would presumably be forced round the circulatory system during this five minutes, so that the full five minutes could not be added to the seven or eight. We are probably safe in assuming that about five minutes' loss of its circulation is the outside limit of time that the brain can withstand and recover completely. The heart itself, even in man, can, of course, withstand much longer periods of arrest and recover its contractility.

THE CONDITION OF THE BRAIN.

In the clinical cases no evidence of gross lesion of the brain was found post mortem and the cause of the non-recovery of the cerebral functions must be sought in some change affecting the nutrition of the neuron. Œdema of the brain was not noted as being present in either of the two cases which I reported, indeed in one the ventricles were described as not containing any excess of fluid and in the other the brain tissue was noted as being fairly firm. Convulsive seizures are a noticeable feature in these cases and would raise the intracranial pressure, a condition probably favourable to the passage of blood from the cerebral capillaries into the perivascular spaces. Until further knowledge of the histological changes in the brain in these cases is forthcoming, the cause of the non-recovery must be attributed to injury to the neurons and possibly to cerebral œdema.

REVIEW OF THE SYMPTOMS.

The cases come under very different categories: first, sudden cardiac inhibition during puncture of the chest or lavage of the pleura; secondly, cardiac inhibition in patients already unconscious from the influence of chloroform; and thirdly, experiments on animals in which no cardiac inhibition occurs, the supply of blood to the brain alone being abolished.

In the first group the inhibition may be of varying degrees of intensity and duration. (*a*) Sudden severe fatal syncope. Numerous cases as noted are on record. (*b*) Sudden syncope followed by complete recovery after the most alarming symptoms. (*c*) Sudden syncope; partial recovery, followed by death after varying periods of time; this class may be compared with the cases occurring under chloroform anæsthesia in which the onset of symptoms is denoted by arrest of pulse and respiration, but with the resuscitation of the heart and with the disappearance of the effects of the anæsthetic these cases are identical save for the extra shock attending the surgical operation. It is also comparable to a considerable extent with the third group—the animals whose cerebral vessels were ligatured for varying times, save that in these the circulation through the rest of the body was maintained.

The onset.—The suddenness of onset is highly characteristic [illegible] uncon-

[illegible] e wrist, in others it has been noted as feeble or slow or intermittent.

Spasms.—(*a*) Initial tonic spasm. In the case of sudden death I reported tonic extensor spasm of arms was noted, with a convergent squint. In other cases sudden tonic spasm has been noted. This initial spasm is to be distinguished from the later convulsive movements and would appear to be the direct result of the sudden cessation of the cerebral circulation. It probably occurs oftener than is recorded, as the extreme urgency of the cardiac failure in these cases is not conducive to observations of transient symptoms. In the cases of chloroform syncope the anæsthetic would doubtless negative the spasm. In the experiments on cats "there was usually a sudden stiffening of all the muscles following occlusion, with violent movements of fore and hind limbs and tail. .. .. Then the fore-limb movements ceased, shortly afterwards the hind limbs relaxed, and the whole animal lay limp and quiet until after the restoration of the cerebral circulation." The sudden stiffening is obviously the same phenomenon as the initial tonic spasm in man; the violent movements of limbs and tail might depend on the fact that the spinal circulation was intact in the animals. (Leonard Hill noted the frequency of extensor rigidity when the limit of cerebral anæmia is reached and the excitability of the cortex is vanishing.) This initial spasm is seen in the tonic spasm observed after the unconsciousness and fall of the epileptic fit. (*b*) Clonic convulsions. These do not seem to occur in the cases of sudden and permanent cardiac inhibition. In the two cases I have seen, in the one with sudden death only extensor tonic spasm of arms was observed; in another which occurred when I was syringing out the pleural cavity the patient, who was sitting up in bed, fell backwards with absolute suddenness. There certainly were no clonic convulsions and I do not remember whether any tonic spasm occurred. Clonic convulsions in these cases appear to be conditioned by the return of the cerebral circulation. Their time of onset varies very considerably. They may appear very soon after the onset of syncope, or they may appear much later, as in the case of the child at St. Thomas's Hospital, in whom the first fit occurred two hours after the attack. Considerable variation was also noticed in the experiments on cats, in whom the convulsions might appear speedily after the release of the vessels from occlusion or not for an hour or more. With a very long period of complete cerebral anæmia the functions of the cortex and tracts must be permanently abolished With periods of anæmia shorter than this the excitability of the cortex and the conductivity of the tracts revive on restoration of the circulation. Leonard Hill's researches prove that a stage of hyper-excitability precedes paralysis when the cortex is rendered anæmic.

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[1] Lectures I. and II. were published in THE LANCET of April 3rd [illegible]

[2] [illegible] us System of Mammals, by [illegible] and F. H. Pike, Journal of [illegible] 9.

Subsequent course of these cases.—In addition to the symptoms already mentioned the pupils dilate and become insensitive to light. Involuntary micturition and defæcation occur. Severe perspirations are common. Consciousness does not return, convulsions may recur from time to time, the deep reflexes may be exaggerated, irregular movements or rigidity of one limb or of both limbs of one side may occur, hemianæsthesia may be detectable, and finally death occurs. In one case here recorded death did not occur till the fifth day. In the case of the cats definite dementia was noted, in some cases following long occlusion of vessels. A similar condition has been observed by Leonard Hill in dogs and monkeys.

These cases of sudden failure of the cerebral circulation, whether produced by cardiac inhibition following pleural or pulmonary stimulation, or by sudden chloroform syncope, or by experimental ligation of cerebral arteries, are of great importance, not merely in that the clinical symptoms are of profound interest, but in view of the gravity of these accidents. They have also, I think, some bearing on the phenomena of epilepsy. Following upon a sudden arrest of the circulation, sudden syncope with unconsciousness is produced. In several cases transient tonic spasm was observed, and it may be that this is a common symptom. The first two symptoms of an epileptic fit are thus reproduced. Inasmuch as the arrest of the cerebral circulation in the cases just described was of very considerable duration, so long, in fact, as to render recovery impossible, the subsequent symptoms of necessity differ from those of the transient epileptic fit. Clonic convulsions do, however, occur with the return of the circulation. The condition bears some resemblance to status epilepticus and a stronger resemblance to some cases of uræmia. It is unquestionably the result of the severe cerebral anæmia, and in the next section evidence will be given that both status epilepticus and uræmic coma and convulsions also depend upon the same factor.

ON DIMINUTION IN THE BLOOD FLOW THROUGH THE BRAIN AS THE RESULT OF INCREASED INTRACRANIAL TENSION.

The experimental results following increased intracranial tension have been studied by Harvey Cushing.[3] He showed that if the intracranial pressure be rapidly increased "Kussmaul-Tenner spasms, evacuation of bladder and rectum, practical cessation of respiration, and pronounced vagus effect upon the heart, often with a complete standstill, lasting from 10 to 20 seconds, may develop. Then follows a release from this extreme vagus inhibition and the vasomotor centre exerts its influence." With a slower increase of the intracranial pressure a different series of events occurred. The pressure against the brain could be increased to the point of its equalling the blood pressure before any symptoms referable to the centres in the medulla were called forth. Direct examination of the cortex through a circular disc of glass fitting tightly into a second trephine hole showed at this period of equalisation of blood pressure and intracranial tension an *abrupt blanching* of the exposed convolutions. The pulsating arteries could be seen against the blanched background and the dark blue veins in the sulci remained filled with blood, but presumably little, if any, circulation passed between them The usual consequence was not death *but a stimulation of the vaso-motor centre, which occasioned a rise in blood pressure sufficient to overcome the high intracranial tension;* the cerebral circulation was re-established and the rosy colour could be seen through the glass window in the trephine hole to return again to the blanched convolution. With further increase in intracranial tension the blood pressure rose *pari passu* and always to a point exceeding the intracranial tension. This process could be repeated until the arterial pressure was forced to two or three times its normal level, sometimes to as much as 250 mm. Hg, without evidence of vaso-motor failure. By this mechanism the vital centres in the medulla and the life of the brain and entire animal are protected.

Clinically it is well established that many of the symptoms of cerebral tumour, hydrocephalus, cerebral hæmorrhage, &c., are dependent upon an increase of the intracranial tension. Among such symptoms may be mentioned headache, vomiting, coma, convulsions, choked disc, &c. Extraordinary relief to these symptoms is attained after the pressure is relieved by surgical intervention. An admirable series of cases has been recorded by Harvey Cushing. The clinical evidence as obtained, therefore, from cases of cerebral tumour, cerebral hæmorrhage, &c., is in complete accord with the conclusions arrived at experimentally by Harvey Cushing. To recapitulate, it is clear that a rise in intracranial tension produced by the introduction of any foreign element, such as a tumour mass, blood, &c., must tend to diminish the blood flow through the brain. As the tension increases a point would be reached at which the intracranial tension equals that of the general blood pressure The cerebral circulation would, therefore, cease were it not that by a compensatory process the general blood pressure rises to a point above that of the intracranial pressure, and thereby maintains the flow of blood through the brain. But with a great increase of intracranial tension certain general effects are produced, apart from focal symptoms, dependent upon the position of the lesion. Headache, for instance, is common and is probably attributable to tension of dura mater and tentorial structures.

Optic neuritis is to be attributed, in the main, to a passive venous congestion of the retinal veins, and subsides or improves on relief of intracranial tension, sometimes with extraordinary rapidity.

Finally, coma is almost invariable in the last stages of cerebral tumour and in large cerebral hæmorrhages. Convulsions are also frequent in these conditions. Both are remarkably improved by methods capable of lowering the cerebral pressure, such as trephining or lumbar puncture And it is to be noted that by lowering the intracranial tension a free access of blood to the brain is facilitated.

Uræmia.—Uræmic convulsions may be absolutely indistinguishable from those of idiopathic epilepsy, and if it can be shown that there is evidence of a condition of cerebral anæmia in uræmia, support would be lent to the similar theory as applied to epilepsy. In a paper read before the West London Medico-Chirurgical Society I brought forward evidence to show that the cerebral manifestations of uræmia are due to cerebral anæmia produced by an increase of intracranial tension, resulting in all probability from cerebral œdema.[4] In the cerebral manifestations of uræmia we frequently see a symptom-complex almost identical with that of cerebral compression—viz., headache, vomiting, drowsiness, coma, convulsions, optic neuritis, &c. This symptom-complex is, at any rate in great measure, dependent upon increased intracranial tension, for many cases are now on record in which extraordinary relief has followed lumbar puncture, a procedure which, by means of allowing some of the fluid to escape, diminishes the pressure within the cerebro-spinal space. Numerous cases of uræmia were quoted from the literature in which marked relief had followed on the lowering of intracranial tension by means of removal of cerebro-spinal fluid by lumbar puncture. It is well known that uræmic convulsions and [illegible] such treatment, but the prom[illegible]ment occurred was such as to leave no doubt in the minds of the observers that the relation was one of cause and effect. It is noteworthy also that in most of the cases the cerebro-spinal fluid did escape under considerable pressure.

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[3] Some Experimental and Clinical Observations concerning States of Increased Intracranial Tension, American Journal of the Medical Sciences, 1902, vol. cxxiv., p. 375.

[4] Uræmia, West London Medical Journal, 1907, vol. xii., p 9.

But relief has not always attended the performance of lumbar puncture in uræmia, and this may be due to the fact that this operation can only relieve intracranial pressure by removal of the *free* cerebro-spinal fluid. If, however, the pressure is mainly produced by a cerebral œdema, then, unless a co-existent excess of free ventricular fluid were present, the removal of the little that would flow might not be sufficient to relieve the pressure materially.

The manifestations of uræmia here considered, which are so strikingly relieved by lumbar puncture, are, as has been pointed out, so closely similar to the pressure symptoms produced in other conditions—such as cerebral tumour, cerebral hæmorrhage, &c.—that uræmia has not infrequently been erroneously diagnosed as cerebral tumour, and the fact that the cerebro-spinal fluid is often under considerable pressure in these cases of uræmia indicates that the underlying condition of increased intracranial tension must be responsible for the symptoms. Harvey Cushing, indeed, makes this suggestion in the paper on the establishment of cerebral hernia above referred to: "I have come to believe that the same causes must underlie the choked disc of tumour and the so-called retinitis associated with renal disease. It seems not improbable that an increase of intracranial tension due to cerebral œdema may be responsible for the occasional retinal changes in Bright's disease, as well as for the headache and vomiting which may characterise it." The correctness of Cushing's views, founded on a series of brilliant researches, both experimental and clinical, is still further supported by a recent account of a case of uræmia in which subtemporal decompression was attended with most successful results.[5] The authors' conclusions were that the neuro-retinal and cerebral manifestations of uræmia are due to œdema of the brain, and also the local and transient hemiplegias, aphasias, amauroses, Jacksonian fits, &c.

Uræmic coma.—The foregoing facts indicate that in uræmia a state of increased intracranial tension is present and that relief of pressure by lumbar puncture or decompression causes a marked alleviation of the symptoms. Traube's view that cerebral œdema (which would produce the rise in the intracranial tension) produces anæmia of the brain is strongly supported by the above facts and especially by the striking case of decompression. The late Dr. Beevor also remarked, when injecting brains of people dead from various causes, that "it was particularly observed that the cases, where the injection did not penetrate well, were those suffering from granular nephritis or alcoholism, where there was much fluid in the subarachnoid space of the brain."[6] Concurrently with the increase of intracranial tension the blood pressure rises and we see the slow tense pulse so common in uræmia. This conservative rise of blood pressure maintains the cerebral circulation. If the tension progressively rises the compensatory rise of blood pressure cannot go on indefinitely, and a point may be reached beyond which no amount of vaso-constriction and cardiac augmentation can maintain an adequate cerebral circulation. If this point is reached gradually and the volume of blood passing through the brain be slowly diminished, we should expect a comatose condition to develop, the last stage of cerebral compression with gradual respiratory failure, the high-tension slow pulse of the early stage of compression changing into a soft, rapid pulse, with the developing vaso-motor failure. A concomitant toxic action on the brain is not denied; such may be present and aid in the production of the cerebral symptoms. But the anæmia alone should suffice to induce the coma.

Uræmic convulsions.—Under the severe strain imposed upon it in working against this conservative high blood pressure the heart may fail rapidly in chronic nephritis. Should this occur, or should the vaso-motor centre fail rapidly, it is clear that the cerebral circulation must fail equally rapidly when [illegible] high. Instead of [illegible] developing into coma [illegible] result, and convulsions would readily be produced. It is of great interest to note that the onset of uræmic convulsions is, in fact, very apt to be associated with marked evidences of circulatory failure.

In cases of acute uræmia in acute nephritis it is well known that an increase of blood pressure is common, and the cardiac failure may be more readily induced owing to the more toxic character of some of the diseases associated with acute nephritis, the poisons of the acute infections, such as scarlet fever, materially affecting the heart muscle. The heart would thereby be unable to respond to the vaso-constriction above described, and the conservative rise of blood pressure would fail to develop.

In conclusion, it is submitted that the pathology of the cerebral manifestations of uræmia is to be sought in a condition of œdema and increased intracranial tension with failure of the cerebral circulation produced in the manner suggested; a gradual failure producing coma, a rapid one convulsions. If this conclusion be correct, strong support is lent to the theory that the fits of idiopathic epilepsy are produced by sudden failures in the cerebral circulation, for it is notorious that the convulsions of uræmia and of idiopathic epilepsy may be absolutely indistinguishable, and it is extremely probable that the factor underlying conditions so remarkable and so identical should be one and the same.

Status epilepticus.—Morgan Hodskins and Arthur Morton have reported a series of seven cases of status epilepticus treated by lumbar puncture. It is noteworthy that in four out of the seven cases recovery ensued, and that in every case but one there was an immediate and marked improvement as the result of the lumbar puncture. Further, in six of the cases the cerebro-spinal fluid was evidently under increased pressure, and in the only case in which the blood pressure was estimated it fell from 140 millimetres of mercury to 127 millimetres as the result of the puncture. Other successful cases are on record. These facts suggest that the condition of status is similar to what is seen in uræmia, in which, as has been pointed out, there is an increase of the cerebro-spinal pressure. And this increased pressure would tend to produce an anæmia of the brain unless the blood pressure rose to a point higher than that obtaining within the cranial cavity. The inference, therefore, that status epilepticus is due to anæmia of the brain brought about by increased intracranial tension does not appear unreasonable. It is possible that an unduly severe and prolonged fit in some way evokes œdema of the brain and that the increased pressure resulting from this is responsible for the anæmia and the continuance of the fits.

Mott[7] has shown that the essential changes in the brain in cases of status epilepticus are: "1. Great venous congestion and stasis. 2. *Œdema of the brain* and marked distension of the perivascular lymphatics, flattening of the convolutions, and naked-eye increased vascularity; but inasmuch as the brain is contained in a closed [illegible] must be associated with a [illegible] *anæmia.*" It is interesting al[illegible] experimental ligature of arteries in animals leads not only to anæmia of the brain but also to œdema. Continuing the above quotation: "In the case of experimental ligation of arteries in animals, the effect may be similar but it is brought about by an entirely converse process. The œdema of the brain and venous stasis are here proportional to, and determined by, the diminution of arterial blood in the arterio-capillary systems. ...... Microscopical observations show that the whole brain is permeated by a canalicular lymph system containing cerebro-spinal fluid, the large processes of the neurons lying in lymph spaces which are continuous with the perivascular lymphatics. These perineuronal spaces were very obvious in some of the cases of experimental anæmia." In this connexion it is a striking fact that, in his description of the photo-micrographs accompanying his paper, Mott comments on the close similarity between the appearance of the brain cells and perineuronal spaces in experimental anæmia of the brain (by ligature) and in status epilepticus.

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[5] Harvey Cushing and James Bordley, jun.: Subtemporal Decompression in a Case of Chronic Nephritis with Uræmia, with Special Consideration of the Neuro-retinal Lesion, American Journal of Medical Sciences, October, 1908.

[6] C. E. Beevor: On the Distribution of the Different Arteries Supplying the Human Brain, Philosophical Transactions of the Royal Society, 1908, Series B, vol. cc., p 15.

[7] [illegible] p. 499.

These observations, both clinical and pathological, lead to the conclusion that the fundamental condition underlying the condition of status epilepticus is cerebral anæmia. It might be urged that, inasmuch as it is not probable that there is a great rise of cerebral pressure, the heart should be able to respond by more powerful contractions which would maintain the cerebral circulation (*vide* Harvey Cushing's observations). It is interesting to note in this connexion that the heart in cases of status epilepticus shows extreme fatty degeneration; thus Mott[8] has shown that "the œdema of the muscle substance of the heart is very striking upon microscopical examination; networks of capillaries are seen, small hæmorrhages are sometimes observed, and the fibres are separated from one another by a serous exudation. This of itself would embarrass the much over-worked organ; but the lymph around the muscle fibres no longer constitutes a normal environment, it contains excess of carbonic acid, deficient oxygen, and toxic fatigue products, the result of excessive muscular activity and imperfect metabolism. The fibres thus imperfectly nourished and oxygenated are the seat of an imperfect metabolism which is manifested upon microscopical examination by a lustreless appearance, indistinctness of striation, and accumulation of minute particles of fat in the substance of the fibres. ...... In seven cases of status epilepticus, and in a large number of cases of general paralysis dying after prolonged convulsive seizures, I have invariably found this fatty change in the heart and striated muscles."

THE EPILEPTIFORM SEIZURES OF GENERAL PARALYSIS.

Mott has shown that "œdema of the brain, owing to dilatation of the perivascular lymphatics, is a striking feature in general paralysis, and the water which can be extracted from the brain by placing it in a desiccator is larger in amount than in the normal brain. But venous congestion and œdema of the brain must be associated with arterial anæmia. ...... If all the arteries to a dog's brain be ligatured there is established an arterial anæmia, but the veins of the cortex will be found greatly congested, the perivascular lymphatics distended, and the motor cortex excitable, even hyper-excitable, to electric stimulation. This makes it probable that the epileptiform seizures of general paralysis are associated with, and probably dependent upon, venous congestions and stasis, arterial anæmia and increased excitability."

THE RÔLE OF THE SALIVA IN THE TRANSMISSION OF TUBERCLE.

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TO prevent the transmission of the tubercle bacillus from the tuberculous to the non-tuberculous and to maintain the general health of the non-tuberculous are the main principles in the prophylaxis of tuberculosis.

The danger of sputum as a carrier of tubercle bacilli is fully recognised and every case under proper treatment is educated in the care of the sputum. But we have been struck by the freedom with which the tuberculous use their saliva for purposes in no way connected with the digestion, and also by the fact that few, if any, tuberculous patients are warned against such uses. It is known that bacilli may be obtained from the mouth in the case of patients suffering from pulmonary tuberculosis, and it has even been recommended that mucus should be obtained from the larynx for examination in suspected cases where sputum is not available.

In order to find whether the saliva from the tongue was contaminated at all frequently by the tubercle bacillus we examined 50 cases of pulmonary tuberculosis, derived in part from amongst the out-patients of the Bristol General Hospital and in part from the Winsley Sanatorium. This series only included those cases in which the tubercle bacillus had been demonstrated in the sputum, cases, therefore, of open tuberculosis. The method adopted was to stroke the anterior part of the patient's tongue with the stick of a wooden match and apply the saliva obtained to an albuminised slide. The slide was then stained by the Ziehl-Neelsen method, each specimen being stained in separate bulk of stain, and all positives being examined by us both. In this way tubercle bacilli were demonstrated in 29 cases out of 50. Amongst the first 11 cases were three in which tubercle bacilli were not found in the saliva examined before expectoration, the bacilli only being found after an expectoration to order. Since the other 39 cases were examined with no regard to the time at which the patient expectorated or even coughed the first 11 cases will be brought into line if we consider these three as being negative, thereby reducing the number of positive cases to 26. It may be urged that many of these tubercle bacilli were innocuous but, on the other hand, inoculations, in all probability, would have demonstrated active bacilli where the Ziehl-Neelsen method of examination failed to demonstrate their presence and an even higher percentage of positives obtained. The average patient assumes, if indeed he thinks of it at all, that when he has expectorated the sputum the mouth remains untainted; he has been taught that the bacilli are in the sputum and he has flasked and pocketed the sputum. In cases in which the expectoration was recent the bacilli were found more frequently than in those cases in which it was not so recent. In some positive cases there had been no expectoration for an hour or more before the examination (e.g., Case 11, tubercle bacilli numerous; Case 15, tubercle bacilli scarce). In some instances where no expectoration had been noticed by the patient for some six or seven hours bacilli were found in the saliva (e.g., Case 9, few bacilli; Case 14, numerous bacilli). One patient in the sanatorium denied having had any cough or expectoration for many days, and yet a few bacilli were found (Case 13). On the other hand, where there was frequent profuse expectoration such as one may get from large cavities the bacilli might be scarce or even not found at all by this method of staining, a fact that will cause no surprise to those who have had some experience in the examination of sputum. We also noticed that specimens taken some hours after a meal were more likely to give a positive result than were those taken within an hour after a meal.

The uses to which the saliva is put are, unfortunately, numerous. To some of these we shall now refer. In this connexion some of the 50 cases are of interest.

Case 18.—The lead of a mechanical pencil was dropped on the floor of this patient's room. He kindly helped in the search, and being the first to catch sight of the object he licked his finger to assist adhesion and would have recovered the lead by that method had he not been prevented. An examination of his saliva was made. He admitted having an occasional cough, but stated that there had been no expectoration for a week or more. "Very numerous T.B." were found. He had just come in from the garden where he had been working with a rake, and we can only surmise the possibilities of the presence of "very numerous T.B." upon the handle of that implement.

Case 19.—A consumptive out-patient, placing his book before the physician, was about to turn the page with an adequately moistened finger when he was prevented. No examination was made at this time, but his name was found amongst those who had previously been examined with positive result.

Case 42.—Another consumptive out-patient with similar intentions had his saliva examined at once with positive result.

These three cases were of the labouring or mechanic class, so that one is not surprised at their use of saliva in operations requiring some delicacy of touch, bearing in mind the lavish way in which the hands are prepared for a firm grip of the handle of an implement. But this use of the saliva for turning over the leaves of a book is not absolutely confined to the more uneducated classes. The danger of this practice is no imaginary possibility, but is so widely known that finger-dampers are provided for the clerks in many offices to obviate the use of the saliva. A medical man when dealing with a case of tuberculosis in a clerk inquires as to the presence of other cases of tuberculosis in the office or after the health of the clerk whose books his patient may have taken over. *Moistening the fingers in order to obtain a firm grip* of an implement is not unknown amongst well-educated men when the implement in question is a cricket bat or a tennis racquet. And the use of a cricket bat is not always confined to the owner. The sempstress often applies her saliva to both ends of the thread, first to facilitate threading the needle and then to form a knot on the other end. The observant can hardly claim that this practice is limited to the poor. We do not wish for a moment to suggest that every garment made by a person with open tuberculosis must be a "shirt of Nessus" in its effect, but not all needlework is washed before it is first used, and slight though the danger may be from this disagreeable habit it is a danger that might well be avoided.

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[8] Mott. Loc. cit., pp. 502, 503.

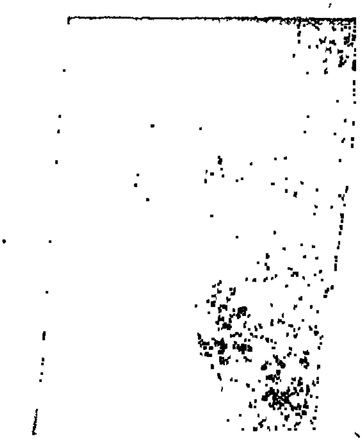
The commonest use of saliva amongst the educated is to close envelopes and stick stamps, so common, indeed, that it would seem almost hopeless to attack this method. An equally convenient and secure form of envelope that would not require the use of the saliva or a damper would be appreciated by all of us. It may be urged that this method of using the saliva is a fairly safe proceeding, since any tubercle bacilli applied to the gum are securely sealed down. But observe the process more closely and it will be seen that the *saliva often spreads beyond the gum or even the flap* of the envelope. Some people, having a fastidious objection to the flavour of gum, prefer to apply saliva to that part of the envelope to which the flap is to adhere; some lick the corner of the envelope and apply the stamp somewhere in this moistened area; others apply the stamp face downwards upon the tongue, leaving it there until the gummed side becomes soft. So much for the idea that all bacilli are sealed down. We obtained envelopes which had been sealed down by consumptives and, cutting out the gummed portions together with a broad margin, washed them and examined for tubercle bacilli the centrifugalised deposit from the washings. The specimens were stained by the Ziehl-Neelsen method as before. The first specimen yielded various bacilli from the mouth, leucocytes and squamous epithelium. The second specimen showed tubercle bacilli. Again, we do not wish to suggest that this method is a fertile source of infection, even where the receivers open such envelopes at the breakfast table with their fingers or a prong of a fork. But where a patient has been taught, and rightly so, to expectorate all sputum, and he sends a licked envelope two or three times a week to the same correspondent, it must be admitted that the receiver runs a risk which he might reasonably be spared. And yet one of us, from his experience in sanatoriums in this country and on the continent, believes that it is the exception for patients to be warned on this point.

The danger of the use of saliva for "rubbing out on a slate is so well known as to have helped in the abolition of slates from many schools. Children and some adults wet the point of lead pencils when they write with them, nor do *they object when others use these pencils, the borrowers* substituting their own saliva for that of the owners.

Several instances have been published in which tubercle has been inoculated by the saliva. Of those cases of inoculation that one of us has met with are the following. A child with lupus of the face admitted that her mother had sometimes cleaned the face with a handkerchief moistened with saliva, and in reply to a question as to whether her mother had a cough the child at once replied that the doctors said that her mother had consumption. A subsequent inquiry amongst out-patients showed that this indelicate attention was very frequent, many of the mothers admitting that they had used this method on occasions Is this method of cleaning a child's face in an emergency entirely confined to the destitute?

Another case is that of a patient who has had phthisis for four years Some two or three years ago she suffered from a rash over her arms. The rash consisted of tiny red spots "not like nettlerash," although accompanied by intense itching, especially at night. She says that she scratched them and applied saliva to alleviate the irritation. There are a few slight scars marking the places where suppuration followed and on one of the scars is a ring of lupus nodules. (See Fig. 1.)

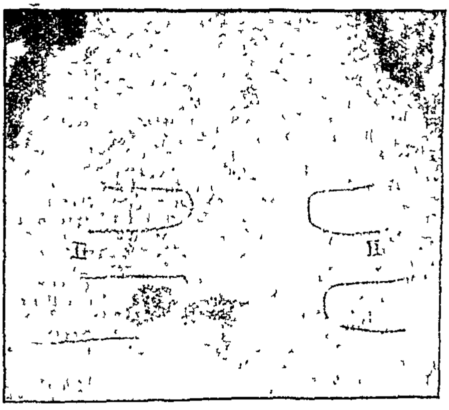
FIG. 1.



Lupus, inoculated by saliva, upon a scar, just above origin of the supinator longus Right arm.

Another case of auto-inoculation is that of a patient who has had phthisis for some six months. In August, 1908, she had a pimple over the right margin of the sternum opposite to the second intercostal space. Causing great irritation, the pimple was scratched and it broke. The patient frankly admits that she applied saliva to the small wound. The pimple healed and entirely disappeared. A few weeks afterwards, in the same place, a small flat lump appeared under the skin. The skin over the lump became thin and red, and later a discharge broke through the centre of the area *The disease has spread for one and a half inches* along the intercostal space and at the present time (December, 1908) there is an irregular line formed of thin red scar

FIG. 2.



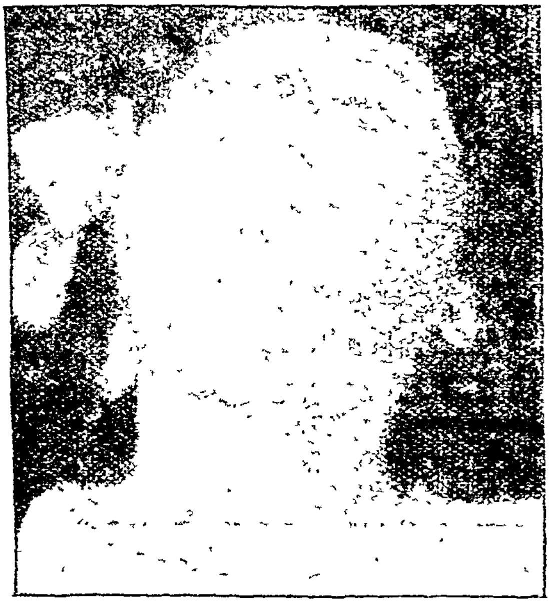
Lupus inoculated by saliva spreading along second intercostal space.

tissue with one or two yellowish scabs upon it. Beneath the unchanged skin at the outer end of the line two small flat lumps can be felt. (Fig. 2.)

The difference in the form of skin tuberculosis in the above two cases of auto-inoculation may be due to difference in depth of the inoculation, or possibly to a difference in the variety of tubercle bacillus.

In another case of a patient, aged 13 years, the position of the lupus is at least open to the suspicion of having been caused by the use of saliva. The mother is healthy, but seven of the mother's brothers and sisters have died from consumption. The child herself has signs of phthisis at one apex. A linear scar two inches long runs across the neck at the level of the edge of the dress. A streak of lupus was removed from here three years ago and there is now a recurrence at one end of the scar. There is no other patch of lupus on the face or neck. No history can be obtained of the garments having rubbed the neck, but the habit of softening with saliva any rough and scratchy material which chafes the neck is too common to be dismissed as an unlikely cause. It is difficult to remember such simple actions, especially in a disease where cause and effect are separated by such a long latent period. (Fig. 3.)

FIG 3.



A streak of lupus possibly due to inoculation by saliva.

Saliva is sometimes applied to the eyelids to allay irritation, but where a handkerchief is so commonly used for dabbing the part, a sputum-contaminated handkerchief entirely apart from the use of saliva must be at least as common a cause of lupus. Lupus of the nasal mucous membrane is probably always due to the use of a sputum-infected handkerchief and not to saliva. In this connexion it is interesting to observe how a child usually makes inspiratory rather than expiratory efforts when the nose is being wiped and must thereby assist in the infection of the mucous membrane.

Saliva is often used as a styptic, and those cases which Dr. R. B. Wild[1] recorded of lupus of the lobe of the ear following perforation were probably cases of inoculation by means of saliva, as we know that saliva is often used as a styptic in these cases when the wound is fresh and later to smooth the introduction of the ear-ring.

It is a practice very common amongst nursing women to apply saliva to the nipples to encourage the infant to take the breast. This must be looked upon as a possible source of infection in cases of tuberculosis of the breast, but what must be the almost inevitable result to the child of the tuberculous mother who moistens the nipple with her saliva? One great advantage of the boat-shaped bottle in the artificial feeding of infants is that it does not necessitate the nurse or mother drawing up the milk into the teat before introducing the teat into the mouth of the infant. This transference of the saliva, however, is an accidental use, but the teat both of the long-tubed and of the boat-shaped bottle is often moistened intentionally to encourage the child to accept it. Again, mothers and nurses often apply saliva to the rubber comforter for the same purpose. 50 out-patients were asked the following "leading" questions: "Were all your children bottle-fed?" If the answer was in the negative, then, "Did you find any difficulty in getting them to take the breast?" And then, "I suppose you always wet the nipple first with a finger moistened at the mouth?" It is probable that had one said "I suppose that you never wet the nipple with your saliva?" the proportion of affirmative answers would have been much smaller. However that may be, of the 50 mothers 41 had fed at least one child for a time at the breast; of these only three did not admit having moistened the nipple. One of these could not remember, another who was consumptive had just admitted that she had lost three children from tuberculosis, and the third mother was certain that she had never moistened the nipple. Amongst those who had so moistened the nipple two had lost several children from tuberculosis, the mothers being themselves tuberculous, one mother having lost all seven. Of the nine mothers who had never given the breast only one had not sucked or otherwise moistened the rubber teat. If the risk of infection bears any direct proportion to the amount of the saliva used, and as to this we can offer no data, then the breast-fed child would run a greater risk than the bottle-fed child where the mother was tuberculous. Some of these mothers mentioned, as a reason for not having given the breast to all their children, that they had suffered from "broken bosoms." To those who make a routine examination of the mouth in the out-patient department of a hospital such broken bosoms need little further explanation. In the case of the tuberculous mothers we readily grant that infection may be carried to the child in many other ways, but it would be difficult to find a more certain method, or one more easily obviated.

We do not state that the saliva is to be blamed as the means of contamination in a very large number of cases of pulmonary or other forms of tuberculosis. Such a statement might lead to a foolish scare on the one hand, or from such exaggeration, lead, on the other hand, to the neglect of easy and reasonable precautions. We sometimes overhear an argument used to encourage the nervous or discourage the particular, that we must all swallow or inhale many tubercle bacilli every day. Without accepting or disputing such a statement, we may fairly point out that the fact that you cannot make your boots absolutely clean should not prevent you from using the doormat. Do we not insist upon our consumptive patients expectorating their sputum, although we know that they must still continue to swallow large numbers of tubercle bacilli?

We would urge that all cases of pulmonary tuberculosis, at any rate, should be forbidden to close envelopes and stick stamps with their saliva and forbidden to moisten their fingers with saliva for any purpose whatsoever. There is little to be said in favour of such uses, and when we have admitted that they are convenient and very common, they remain disagreeable and dangerous. But since the non-tuberculous who moistens his fingers with saliva to turn the leaves of the office ledger or grip the handle of a spade immeasurably increases the risk to himself of the same habit in the tuberculous, and since the tuberculous patient has usually been included amongst the non-tuberculous for some months at any rate before his disease is discovered, some attempt should be made to reduce the frequency of this habit even if it is thought to be impossible to put an end to it. Surely it is not too much to ask that wherever there is an inkpot there should be a gum or finger damper, and that it should be taught in all schools that moistening the fingers with saliva is a dirty habit and a habit that is fraught with danger both to the possessor and to others.

Note.—Since writing the above one of us has met with two other cases of lupus of the face where there was a definite history of face cleaning with saliva by the pulmonary tuberculous, but in neither case was a history of previous breach of surface obtainable. No doubt in the skin department of a hospital many more cases would have been met with.

Clifton.

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[1] Some Sources of Infection in Cutaneous Tuberculosis, Brit. Med. Jour., 1899.

TWO UNUSUAL CONDITIONS OF THE GALL-BLADDER.

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CASE 1. *Axial rotation of the gall-bladder; strangulation.*—The patient, a woman, aged 72 years, was admitted to the London Hospital on August 1st, 1905, with the following history. Three days previously she had been suddenly seized with severe pain in the right hypochondrium which persisted until her admission to hospital. She had vomited four or five times and the bowels had not acted since the beginning of the attack. She had never had a similar attack before, had never been jaundiced, and so far as she knew had never passed any gall-stones. On admission her pulse was small and regular, and its rate was 100 per minute; her temperature was 101°F. She was not jaundiced. There was great tenderness and rigidity in the right hypochondrium, and a rounded tumour could be felt in the region of the gall-bladder; it was dull on percussion, and the dulness was continuous with the liver dulness. The lower abdomen was distended. A diagnosis of acute cholecystitis was made.

A vertical incision was made over the swelling. On opening the abdomen the tumour was seen to be an enlarged gall-bladder with numerous adhesions to the omentum and hepatic flexure of the colon. The gall-bladder itself was black, the size of a large pear, and there were a few patches of lymph on it and also on the upper surface of the liver. The adhesions were all sufficiently recent to admit of their being broken down by the finger; none were ligatured. The gall-bladder was tapped and a black fluid composed of altered blood and a little bile was drawn off. The wall of the gall-bladder was much thickened and stiff from hæmorrhage into it. On palpating the cystic duct a nodule was felt which I thought at first mi [illegible] nodule of carcinoma, but on [illegible] nd that it was due to axial [illegible] the cystic duct, the nodule h[illegible] ting of the duct. The twist was easily undone and consisted of four half turns from left to right. The gall-bladder, with part of the cystic duct, was rapidly excised and the stump of the duct was ligatured and covered by peritoneum. No gall-stones were found in the gall-bladder or in any of the bile-ducts. A tube containing a gauze drain was passed to the stump of the duct through a stab wound in the loin and the anterior incision was closed. The patient collapsed suddenly 12 hours after the operation and in spite of treatment died a few hours later.

Th[illegible] of [illegible] after its removal it was found to be completely covered by peritoneum and was attached to the liver only by a narrow mesentery which left the gall-bladder in the neighbourhood of the neck and the cystic duct. The specimen is now in the London Hospital Museum, No. 1395F.

[illegible] ie liver is variable. In t[illegible] a shallow fossa on the under surface of the right lobe of the liver and only the fundus and lower surface are covered by peritoneum. In other cases a bridge of liver tissue crosses it, or it may be almost completely surrounded by peritoneum and have a distinct mesentery. In 100 dissections of the gall-bladder and bile-ducts Brewer[1] found that in five cases the gall-bladder was only attached to the liver by means of a double fold of peritoneum which formed a distinct mesentery. Three of these, however, had a second mesentery which was attached to the duodenum and transverse colon and which was really an extension outwards of the lesser omentum. It is therefore exceptional to find a gall-bladder so surrounded by peritoneum that it is attached to the liver by a definite mesentery, but it is extremely rare to find one which is so completely surrounded by peritoneum that it is only attached to the liver by a narrow mesentery which leaves the gall-bladder in the region of its neck and does not extend on to its body at all. When this condition obtains, the gall-bladder swings free in the abdominal cavity attached only by a pedicle composed of this short mesentery with the cystic duct and vessels, so that axial rotation of the gall-bladder with torsion of the pedicle is not unlikely to occur.

Wendel[2] has reported a case of axial rotation of the gall-bladder also. The patient was a woman, aged 23 years, who first came under observation in November, 1895, for some gynæcological disorder. A moveable ovoid swelling was then discovered in the mesogastrium extending into the left lumbar region, but there were no symptoms which could be associated with it. In September, 1896, she had a severe attack of cholecystitis, and perforation of the gall-bladder probably took place. She refused to submit to operation, however, until the following March, when she could endure the pain and discomfort no longer. At the operation a large abscess was found, which communicated with the gall-bladder through a large perforation on its postero-external aspect. The gall-bladder contained many gall-stones, but a few had escaped and were lying loose in the abscess cavity. The cystic duct was extremely long; it measured three and a quarter inches from the anterior border of the liver to the neck of the gall-bladder and was twisted many times. The gall-bladder was completely surrounded by peritoneum, but the cystic duct had a mesentery about two inches long which was attached to the under surface of the liver. The length and extreme twisting of the duct are well shown in the illustration given in Wendel's article. This illustration is also represented in Bland-Sutton's "Gall-stones and Diseases of the Bile-ducts."

While this case described by Wendel resembles Case 1, it differs from it in many respects. In both cases the gall-bladder was entirely surrounded by peritoneum, and was attached to the liver by a narrow mesentery which, with the cystic duct and vessels, formed a pedicle, and in both cases there was rotation of the gall-bladder with torsion of the pedicle. In Wendel's case, however, the patient suffered from gall-stones, and acute cholecystitis with perforation of the gall-bladder occurred; the cystic duct, moreover, was extraordinarily long. He does not say whether there was any evidence of previous hæmorrhage into the wall of the gall-bladder, but only that, although the duct was twisted many times, gangrene had not supervened. It is remarkable that gangrene did not occur, for with such twisting of the duct the blood-supply through the cystic artery must have been cut off. Probably the nutrition of the gall-bladder was maintained by means of the adhesions between it and neighbouring structures, as is frequently the case in the somewhat analogous condition of torsion of the pedicle of an ovarian cyst. In Case 1 there were no gall-stones and the cystic duct was not unusually long, but torsion of the pedicle caused obstruction of the cystic vessels and strangulation of the gall-bladder.

CASE 2. *Primary carcinoma of the gall-bladder 21 months after cholecystotomy.*—The patient, a woman, aged 37 years, was admitted to the London Hospital, under the care of Mr. Jonathan Hutchinson, jun., on Nov. 19th, 1906. During the previous two years she had had four characteristic attacks of gall-stone colic accompanied by jaundice.

Laparotomy was performed by Mr. Hutchinson. The gall-bladder was opened and three large faceted gall-stones were removed; it also contained mucinous fluid and a large quantity of débris which had to be wiped from the mucous membrane of the gall-bladder. No stones were found in the hepatic or common ducts. The gall-bladder was drained and the patient made a good recovery. She remained quite well until May, 1908, when she began to have continuous pain in the right hypochondrium, with severe exacerbations every day. The pain was sharp and cutting in character and she described it as passing round the right side to the back. Recently it had been so bad that she could get no rest. There had been no jaundice since the operation.

The patient was readmitted to the hospital on August 6th, 1908. On examining the abdomen a rounded swelling was found in the right hypochondrium lying under the scar of the previous operation. It was smooth in outline, adherent to the anterior abdominal wall, and tender on palpation. There was no free fluid in the abdomen.

A vertical incision was made into the swelling and the diagnosis of malignant disease of the gall-bladder was confirmed. The wound was closed and two oval incisions were made, which were so placed that the gall-bladder and the overlying part of the abdominal wall to which it was adherent could be removed in one piece. There were numerous adhesions between the gall-bladder and the omentum; these were not broken down, but the gall-bladder was freed by dividing the omentum between ligatures. It was then found that the growth had passed beyond the gall-bladder and had invaded the adjacent part of the liver, and accordingly a wedge-shaped piece was excised from the right lobe, its base measuring about two and a half inches. The wound in the liver was closed by means of catgut sutures. The subsequent progress of the case was uneventful with the exception of an attack of bronchitis which slightly retarded convalescence. The wound healed by first intention.

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[1] Annals of Surgery, vol. xxix., p. 721.

[2] Ibid., vol. xxvii., p. 199.

The specimen was composed of the gall-bladder and the adherent omentum, the overlying part of the liver, and part of the cystic duct. The walls of the gall-bladder were very much thickened and were obviously the seat of malignant disease which extended into the cystic duct. The growth projected into the cavity of the gall-bladder and partly filled it. There were no gall-stones in the gall-bladder or bile-ducts. Microscopically the growth was a columnar-celled-carcinoma.

Two similar cases have been reported. Lawford Knaggs[3] operated upon a woman, aged 69 years, in September, 1902. The gall-bladder was distended to the size of a fist and contained foul-smelling fluid with some pus. A single stone was felt in the cystic duct. This was squeezed back into the gall-bladder and was removed. The gall-bladder was very long and supple and not noticeably thickened; it was drained. The fistula persisted until the end of 1903, when it closed. Shortly afterwards the patient came under observation again on account of pain in the gall-bladder region which she thought was due to the closing of the fistula. Some thickening was felt under the scar of the old operation. On Jan. 23rd, 1904, a small incision was made over the closed sinus into the gall-bladder and some mucus and a little pus escaped. The mucous membrane was sutured to the skin. The patient ultimately died on Feb. 18th. At the post-mortem examination the walls of the gall-bladder were seen to be infiltrated with growth to the thickness of nearly half an inch, the growth extending to and involving the cystic duct. The growth involving the cystic duct had pressed upon and partially obstructed the commencement of the common duct. Above this stricture the ducts were markedly dilated and were the seat of suppurative cholangitis. No gall-stones were found. Microscopical examination of the growth showed it to be a columnar carcinoma.

Mayo Robson[4] performed cholecystotomy upon a woman, aged 57 years, in February, 1902. A stone was found in the cystic duct and was removed. In October, 1903, the gall-bladder and adjacent part of the liver were successfully excised. The gall-bladder was of the size of a small hen's egg and full of solid material. On incising it the swelling was found to be new growth which was infiltrating the adjacent parts of the liver.

The close connexion between carcinoma of the gall-bladder and gall-stones is now generally recognised, and Siegert[5] says that in 95 per cent. of cases of carcinoma of the gall-bladder and adjacent portions of the liver the malignant change is due to the chronic *irritation of gall-stones*. The frequency with which carcinoma of the gall-bladder has developed in connexion with gall-stones is often brought forward as one of the reasons for excising the gall-bladder in all cases when operating for gall-stones. On the other hand, when gall-stones by their irritation have given rise to carcinoma of the gall-bladder they are practically always found in the malignant gall-bladder, and it is extremely rare for carcinoma to follow cholecystotomy.

In April, 1905, G. R. Slade[6] published a paper containing some remarkable facts in connexion with gall-stones and malignant disease which he had observed while working in the Pathological Institute at the London Hospital. He particularly drew attention to the importance of chronic thickening of the wall of the gall-bladder, and pointed out that it should be viewed with the gravest suspicion and not lightly regarded as being due to chronic inflammation. In 12 cases the wall of the gall-bladder presented an appearance which at the time of the necropsy was described as chronic inflammatory thickening. In five of these cases carcinoma was found on microscopical examination. The remaining seven unfortunately were not examined microscopically, but to the naked eye they presented an appearance exactly similar to that of the five cases which were proved to be carcinomatous. He added that since he began in all such cases to examine the wall of the gall-bladder as a routine, he had in no instance failed to find carcinoma.

A few weeks after the appearance of Slade's paper H. A. T. Fairbank[7] briefly reported a case which had been operated upon by Mr. Stanley Boyd. Two gall-stones were impacted in the neck of the gall-bladder, which was kinked. Cholecystectomy was performed as it was thought to be the most satisfactory way of dealing with the case. The wall of the gall-bladder was thickened to a uniform degree. On microscopical examination it proved to be carcinomatous.

In an excellent chapter on cholecystectomy, Moynihan,[8] in pointing out that one of the arguments for cholecystectomy as opposed to cholecystotomy is based on the fact that gall-stones are responsible for so many cases of primary malignant disease of the gall-bladder, says that it must be shown that carcinoma of the gall-bladder has occurred after cholecystotomy, and this the cases reported by Lawford Knaggs, Mayo Robson, and myself certainly appear to do. It is remarkable that each of these three cases should have come under notice at about the same interval after the primary operation—viz., 15, 20, and 21 months respectively, and it raises the question whether early carcinomatous changes could have been already present in the gall-bladder at the primary operation. If so, the general rule that carcinoma of the gall-bladder does not occur after cholecystotomy holds good; but even if the gall-bladder were free from carcinoma at the time of the primary operation these three cases are in such an extremely small ratio to the cases which have not developed carcinoma after cholecystotomy that they cannot be regarded otherwise than as exceptions to the general rule. They cannot alter the generally accepted indications for cholecystectomy, but only serve to accentuate the importance of carefully examining the gall-bladder in every operation for gall-stones, and of regarding *cholecystectomy as an operation of necessity and not of choice* if there is any thickening or ulceration of its wall, or if its appearance or consistency is in any way suspicious.

I am much indebted to Mr. C. W. Mansell Moullin and Mr. Jonathan Hutchinson, jun., for whom I was acting when these two cases were admitted to hospital, for permission to record them.

Queen Anne-street, W.

A CASE OF VASCULAR DEGENERATION: A STUDY IN CARDIAC ARRHYTHMIA.

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THE patient, a German, aged 66 years, from whom the accompanying tracings were obtained, went to the Westminster Hospital complaining of general weakness, of dyspnœa on exertion, and of pain in the chest. On examination he was found to be a feeble man of spare habit, whose radial arteries were decidedly atheromatous, while the pulse was very irregular. It was noticed that there were frequent "intermissions" and that at times the rate of the pulse was infrequent and at other times of normal frequency, the less frequent rate being exactly half the more frequent. The chest was emphysematous and the heart was somewhat overlapped by lung. The apex beat was about half an inch outside the normal position. On auscultation the first sound was shorter than normal but there was no added sound. Not infrequently an extra-systole could be heard—i.e., a premature feeble systolic sound followed by a long pause. Beside these there were numerous pauses or intermissions during which no feeble sound was heard. During auscultation the halved rhythm did not happen to occur. The case was diagnosed as general vascular degeneration affecting the coronaries as well as other arteries. It was considered that owing to insufficient blood-supply to the cardiac walls

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[3] THE LANCET, April 16th, 1904, p. 1054.
[4] Diseases of the Gall-bladder and Bile-ducts.
[5] Virchow's Archiv, Band cxxxii., Heft 2, 1893.
[6] THE LANCET, April 22nd, 1905, p. 1062.

[7] THE LANCET, June 3rd, 1905, p. 1542.
Gall-stones and their Surgical Treatment.

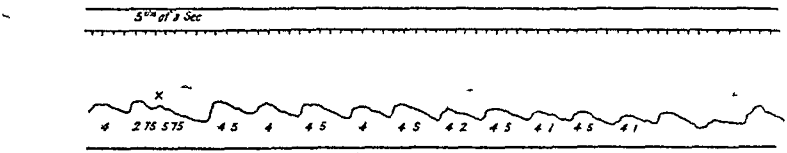


Fig 1

Alternating action

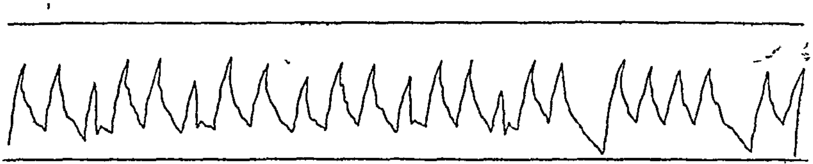


Fig 2

Delayed beat after every second normal beat

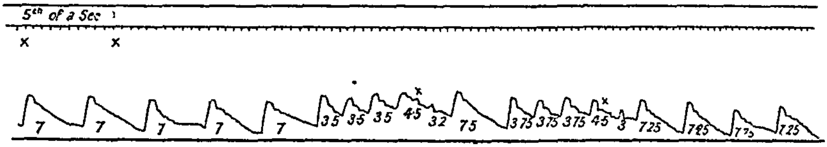


Fig 3

Halved rhythm

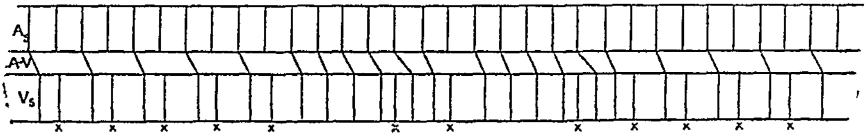


Fig. 3a

Diagrammatic representation of Fig 3

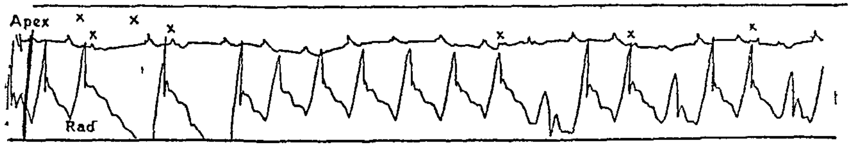
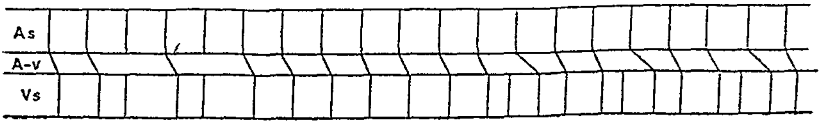


Fig 4

Delayed small beats preceded by smaller beats



x x Fig 4 a x x x

Diagrammatic representation of Fig 4.

there was fibrosis of the heart and loss of contractile power in its muscle. The pain in the chest, which was partly constant, partly paroxysmal in character, brought on by exertion, was regarded as being of the nature of angina pectoris. This view was confirmed by the relief afforded by nitroglycerine.

Numerous tracings were taken from the patient, and these were interesting from the complicated nature of the irregularity of the rhythm and the difficulty in arriving at a correct interpretation of its causes. It was found necessary to take the tracings when the patient was sitting up in a chair, as the irregularity completely disappeared when he was lying down. No tracing could be obtained from the jugular vein except in the horizontal position and then not a satisfactory one; this, however, showed that the auricles were beating in their normal relation to the ventricles and that the interval between the auricular beat and the ventricular was of the normal length. Owing to the emphysematous condition of the lungs it was very difficult to get a tracing from the apex, and a cardiogram was only obtained after the patient had been under observation for several weeks. Thus at first the only tracings showing the irregularity were those obtained from the radial artery alone. From these it was possible to draw certain conclusions, but there were many doubtful points which were only cleared up by the cardiogram.

To begin with, the tracings showed a fair number of extra-systoles. In some of these the compensatory pause was complete, in others it was incomplete, which means that some of the extra-systoles were of the ventricular type, others of the auricular. The majority had, however, a complete compensatory pause, and so were of ventricular origin. An example is shown in Fig. 1, where the premature systole *x* is followed by a pause of such length that the sum of the intervals before and after it was equal to the period (8·5 fifths of a second) occupied by two normal beats. On looking at Fig. 1 another irregularity may be noticed. The beats are alternately large and small, but the pause before each small beat is longer by one-tenth of a second than that after it. The small beat here cannot be an extra-systole, since extra-systoles are always premature, whereas here the small beat is delayed. This is, then, a true alternating action of the heart, the beats occurring at regular intervals, but being alternately larger and smaller. The delay in the occurrence of the small beat in the radial is due to the fact that a feeble contraction takes longer to open the aortic valves than a strong one and takes longer to travel to the periphery; at the heart the beats occur at equal intervals of time. In animal experiments an alternating action of the heart has been shown to be due to loss of the contractile power of the muscle, and Hofmann and Wenckebach give the following explanation of its occurrence:—"Each beat of the heart destroys the contractility of the muscle and after the beat this contractility is gradually restored, but reaches its full extent before the arrival of the next beat. Slight variations in the length of the diastole make no difference in the size of the subsequent beat. Where contractility is depressed it takes longer to recover and has not fully recovered before the commencement of the next systole. Under these circumstances any increase in length of the diastole will be followed by a larger beat owing to the better recovery of the contractility; any decrease of diastole will be followed by a smaller beat. A large beat encroaches on the subsequent period of rest since it is not only larger in size but lasts longer. Hence after a large beat there is a shorter period of rest which, with depressed contractility, will cause the next beat to be small: the period of rest after this would be longer and so the next beat larger and the next pause shorter. Thus there would be alternately large and small beats occurring at regular intervals once this abnormal rhythm is started."

It is not surprising that an alternating action is specially prone to start with the large beat that occurs after the long compensatory pause after an extra-systole, as is the case in Fig. 1. An alternating action of the heart is thus a valuable sign of depressed contractility in human beings and its presence in this case confirms the view that the contractile power of the cardiac muscle is deficient.

In other tracings from the patient, as in Fig. 2, a small delayed beat is found after every second normal beat instead of there being an alternating action. Theoretically, it is difficult to account for this small beat as being due to depressed contractility unless there were some outside influence—e.g., nervous—which rhythmically lessened the contractility. Vagus influences are known to depress contractility, and Mackenzie[1] has recorded cases where small beats from depressed contractility occur quite irregularly. There is, however, another difficulty with regard to this interpretation of Fig. 2; the delay before the small beat is exceptionally long, longer than would be expected from the comparative slowness of its transmission to the wrist. In Fig. 2 are also shown some pauses, double the length of the normal pulse period, which might possibly be due to the small beat being too small to reach the wrist or to the small beat being entirely left out. In other tracings (see Fig. 3) there is a halved rhythm which one might explain as an alternating action where the small beat was either left out or too small to reach the wrist. Such a halved rhythm can be obtained with depressed contractility in animal experiments, being preceded by an alternating action in which the small beat gradually gets less and less. In human beings cases have been recorded of isolated intermissions of the pulse apparently due to loss of contractile power in the cardiac muscle, but so far no case of a halved rhythm due to this cause has been described, although its possibility has been acknowledged. Against this interpretation it might be urged that to produce a halved rhythm the contractility would have to be very gravely depressed, and yet my patient was capable of walking about. In two places marked *x* in the tracing Fig. 3 it will be noticed that a delayed small beat occurs and that in the first of these there appears to be another small beat before the delayed one. This is, however, not certain. The numbers below the tracing indicate the pulse periods in fifths of a second.

Fig. 4, in which a tracing from the apex was at last obtained, clears up all obscurities. Here several examples of delayed small beats appear and in each case the cardiogram shows that the small beat is preceded by another smaller beat, which is not large enough to produce a wave at the wrist. These beats, marked *x* in the apical tracing, are evidently interpolated extra-systoles. Interpolated extra-systoles are rare, but Mackenzie has shown that they do occur, particularly in senile hearts. The reason for the delay in the beat after these interpolated extra-systoles is that the conductivity has not fully recovered in the auriculo-ventricular bundle, so that the stimulus takes longer to pass across it, while the small size of this next beat is due to the contractility not having fully recovered. In the early part of Fig. 4 are two apparent intermissions. The apex tracing shows that here also an extra-systole is present, but this is later in its occurrence than the interpolated extra-systoles. Still the extra-systole is too small to give a wave at the wrist. Owing to the comparative lateness of this extra-systole the next stimulus from the great veins and auricles finds the properties of the ventricular muscle insufficiently recovered for a response to take place and a beat is left out, there being a full compensatory pause as usually occurs in ventricular extra-systoles. These points can be perhaps better appreciated from the diagrammatic representation of Fig. 4 given in Fig. 4a, where *As* represents the auricular systole, *A-V* the auriculo-ventricular interval, and *Vs* the ventricular systole. Here the marked lengthening of auriculo-ventricular interval after the interpolated extra-systoles is well shown. This tracing favours Mackenzie's view that extra-systoles start from the primitive cardiac tissue (i.e., the auriculo-ventricular bundle and its continuations) and that the cause of the compensatory pause after a ventricular extra-systole in man is that in these cases the conductivity of the bundle is depressed and has not sufficiently recovered to let the next stimulus through. It is just possible, however, in this case that the compensatory pause may be due to the contractility of the ventricles not having sufficiently recovered after the extra-systole. The explanation of the halved rhythm in this patient is evidently that it is in reality a bigeminal action of the heart, the second of the coupled beats not being large enough to reach the wrist. This is shown in the diagrammatic representation of Fig. 3 given in Fig. 3a.

This patient was evidently suffering from fibrosis of the heart, probably associated with atheroma of the coronaries. In consequence of this the contractile force of the muscle was deficient, leading to the pulsus alternans and to the attacks of angina pectoris. The fibrosis had probably invaded the *a.-v.* bundle, causing an increased irritability and hence numerous extra-systoles arising in the primitive tissue of which the bundle is composed. An important point to observe is the difficulty of the interpretation of the radial tracing alone, whereas when a simultaneous tracing was obtained from the apex to compare with the radial, the causation of the irregularity became quite clear.

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[1] Mackenzie: Diseases of the Heart, p. 210

Upper Berkeley-street, W.

SOME APPLICATIONS OF THE PRECIPITIN REACTION IN THE DIAGNOSIS OF HYDATID DISEASE.[1]

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AND
J. Q. STOREY.

(*From the Physiological and Pathological Laboratories of the University of Sydney.*)

Results previously obtained.—In January, 1908, two of us[2] published an account of our experience with the precipitin reaction in hydatid disease, and quoted nine consecutive and unselected cases of hydatid invasion in all of which a well-marked precipitin reaction was obtained. In eight of these cases blood from the hydatid patient was collected in sterile glass pipettes on the morning of the day of operation; the hydatid fluid or cysts were obtained in sterile flasks in the afternoon; the patient's serum and the hydatid fluid were allowed to stand overnight in a cool chamber; and the test was made next morning about 24 hours after the blood had been collected. Control sera from healthy persons were taken at the same time as the sera to be tested and were kept in the same manner. From six to 12 drops of serum were shaken up with one cubic centimetre of clear hydatid fluid, precautions to minimise bacterial infection being taken, and the tubes were allowed to stand for 24 hours at room temperature before the precipitates were read. In these circumstances, with one exception, the patient's serum never failed to give a positive reaction with the hydatid fluid removed from his tissues. The single exception, however, yielded a precipitate when the patient's serum was tested with the hydatid fluid obtained from another patient. While this was our usual procedure, we also tested the serum of some of the patients, collected before operation, with hydatid fluids taken from other patients, and we obtained positive precipitin reactions in cases in which subsequent operation revealed undoubted hydatid invasion, and negative precipitin reactions in doubtful cases in which at operation hydatid cysts were not found. Notwithstanding our small series of cases, the fact that in every case the presence of the reaction corresponded with the presence of hydatid cysts, and the absence of the reaction with the absence of cysts, led us to the conclusion that in the precipitin reaction we had a valuable aid to the diagnosis of hydatid disease. We must, however, emphasise the fact that this striking evidence of the correlation of a specific [illegible] as obtained in the [illegible], since usually the [illegible] from the same patient and tested within 24 hours, or, when the serum and the hydatid fluid were obtained from different patients, the hydatid fluid had not often been kept for more than a few days.

Object of the present paper.—It was obvious, however, that if the test was to be of general value as a means of diagnosis we must have a method of storing for considerable periods of time hydatid fluid in such a form that it would be capable of giving a well-marked reaction with the sera of patients suffering from hydatid disease, and that it would not yield any reaction with sera obtained in other conditions of disease. Our present communication, which is of the nature of a progress report, deals mainly with the interactions of hydatid fluids (*a*) not derived from the patient whose serum was being tested, (*b*) of longer standing than those used in our first series of cases, and (*c*) subjected to various methods of treatment in order to preserve them in a sterile condition for many months. The conditions of experiment were, therefore, less favourable than in our first series of cases, and we may at once state that in this second series the amount of the precipitum in positive cases was on the whole smaller than in our first series, and that some cases of hydated invasion failed to give a satisfactory reaction with the hydatid fluids employed by us. Nevertheless, in no single instance did we obtain a positive reaction where hydatid invasion was afterwards proved *not to exist*, and *we were able to give a positive* diagnosis in some cases in which the clinical evidence was on the whole opposed to the probability of hydatid disease, our diagnosis being confirmed by subsequent operation.

Data on which paper is based.—Exclusive of control observations, this paper is based on 50 precipitin reactions tested in regard to 36 patients known or suspected to harbour hydatid cysts. Of these patients 20 were definitely proved to be infested by hydatids and 30 precipitin tests were carried out in regard to them in addition to the usual controls. The analysis of these 30 reactions, the nature of the hydatid fluids employed, and the results obtained constitute the substance of our paper. We may note, however, that of the other precipitin tests 11 were conducted with the serum of ten patients from whom hydatids were in all probability absent, since an operation, or the subsequent history, revealed the presence of some other condition (new growth, suppuration, calculus, &c.) sufficient to account for the symptoms. In all of these cases the precipitin reactions were negative. The remaining nine precipitin tests were made with the serum of six patients in whom an operation, or the progress of the case, was inconclusive as regards the presence or absence of hydatid invasion. Of these doubtful cases two gave a slight positive reaction and four a negative reaction. Since the diagnosis was doubtful we have not dealt further with this group of cases.

List of 20 Cases Investigated in which Conclusive Evidence of Hydatid Invasion was Obtained at Operation or Otherwise.

Case 1.—Male, 23 years; large single cyst of liver with clear contents.
Case 2.—Female, 40 years; multiple suppurating cysts of liver.
Case 3.—Female, 24 years; hydatid of liver.
Case 4.—Male, 39 years; multiple cysts in muscles of back; cysts densely matted and packed with minute secondary cysts.
Case 5.—Female, 12 years; multiple cysts of kidney.
Case 6.—Female, 26 years; large single cyst of liver with clear contents.
Case 7.—Male, 26 years; multiple cysts in kidney of at least ten years' duration.
[illegible]
Case 11.—Male, 51 years; cyst behind liver.
Case 12.—Male, 11 years; suppurating hydatid in left iliac region.
Case 13.—Male, 42 years, large cyst of liver with clear contents.
Case 14.—Female, 50 years, large, shrunken, degenerated cyst of liver with caseous, bile-stained contents.
Case 15.—Female, 28 years, medium cyst of liver with clear fluid contents
Case 16.—Male, 42 years; hydatid of liver.
Case 17.—Male, 35 years, hydatid of lung (?); no operation was performed, but patient coughed up a piece of hydatid membrane.
Case 18.—Female, 12 years; cyst of liver with clear fluid contents.
Case 19.—Female, 49 years; multiple cysts of liver, spleen, and peritoneum.
Case 20.—Male, 22 years; large cyst of liver with clear contents.

Analysis of the precipitin reactions obtained with various hydatid fluids tested with the sera of the patients in whom the presence of hydatid cysts was conclusively proved.—The tests may be arranged in the following groups according to the nature of the hydatid fluid employed in the interactions.

Group I.—In this group of seven tests we repeated the methods adopted in our previous investigation of allowing the serum of the patient to interact with the fresh untreated hydatid fluid taken from the cysts harboured by himself, or with similar fluid collected from another patient. In every instance but one definite evidence of a precipitate was obtained in 24 or 48 hours at room temperature. In two cases the precipitate was very slight, but distinct in comparison with the control tubes; in two cases the precipitate was well marked; and in two it was massive. In one case of long-standing hydatid invasion, Case 7, the reaction was indeterminate.

1. One cubic centimetre of fresh hydatid fluid from Case 4 interacting with nine drops of serum from the same case taken just before operation gave a well-marked precipitate.

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[1] [illegible] sian Medical Congress, Melbourne,
[2] [illegible] asian Medical Gazette, 1908, and [illegible]

2. One cubic centimetre of fresh hydatid fluid from Case 6 interacting [illegible] drops of serum from the same patient before operation gave a [illegible]

[illegible] hydatid fluid from Case 6 passed through [illegible] ting with 16 drops of serum from the same [illegible] ielded a very large precipitate of four [illegible]

[illegible] hydatid fluid from Case 7 interacting with 12 drops of serum from the same case collected before operation gave an indeterminate reaction.

5. One cubic centimetre of fresh hydatid fluid from Case 7 interacting with 12 drops of serum taken before operation from Case 8 gave a well-marked reaction.

6. One cubic centimetre of hydatid fluid from Case 18, collected sterile and kept on ice, interacting with 11 *drops of serum, taken from* the same case five days after operation, gave a large precipitate exceeding two millimetres in depth.

7. One cubic centimetre of hydatid fluid *from* Case 18 kept sterile on ice for five days interacted with 11 drops of serum from Case 19 before operation and gave a slight positive reaction.

Group II.—The tests in this group were conducted with the fluid obtained from a large hydatid cyst of the liver in Case 1. The clear fluid was passed *through* a Chamberland filter, became accidentally infected, and was filtered again, thereafter remaining sterile. After the second filtration, and six days after removal from the patient, quantities of the fluid amounting to three cubic centimetres and four cubic centimetres were put into sterile tubes without further addiment, the tubes were plugged and allowed to stand at room temperature. It was then noticed that a deposit began slowly to separate out from the hydatid fluid. For a few days no deposit was seen at the foot of the tubes; by the end of a week a slight trace of deposit was visible; by the end of a month well-marked deposits were present, the fluid remaining quite sterile. With this fluid we tested the serum from each of two hydatid patients (other than the patients from whom the fluid had been obtained), but in each case the result was indeterminate, since the deposit was too scanty to warrant a positive diagnosis being made. Owing to its failure to elicit definite precipitates from the sera of two hydatid patients this fluid was discarded.

1. One cubic centimetre of hydatid fluid from Case 1 as above, six days after removal, interacted with 12 *drops of serum from* Case 2, collected one month after operation while small cysts continued to drain away from the wound. A large quantity of serum was obtained and four similar reactions were investigated, the tubes being allowed to stand at room temperature for 24 hours, at 37° C. for one hour, at 45° C. for one hour, and at 60° C. *for one hour*, but in every case the result was indeterminate.

2. Two cubic centimetres of hydatid fluid from Case 1 as above interacted with eight drops of *serum from Case* 3 *before operation*, but again the result was indeterminate

Group III.—A saline extract of hydatid membrane was used in the third group of tests. The membrane was dried in a desiccator over calcium chloride and at a temperature of 37° C. Six grammes of dried *membrane* were *ground up* in a mortar and extracted for 48 hours with 300 cubic centimetres of a 0·75 per cent. sodium chloride solution. The extract was then passed through a Chamberland filter. With the filtered extract was tested the serum from each of four hydatid patients, but in each case with negative results. It must be added, however, that in *one* instance, Case 5, the serum was not tested until three weeks after operation and only four drops were obtained; in another instance, Case 6, the serum before operation gave only a slight reaction with the fresh hydatid fluid from the same patient; in a third, Case 7, the reaction of the serum with the fresh fluid from the same patient was indeterminate; and in a fourth, Case 13, the serum was not otherwise tested.

1. One cubic centimetre of e[illegible] with four drops of serum from C[illegible] *tion while cysts were still being* [illegible]

2. One cubic centimetre of [illegible] serum from Case 6 before operation to give a negative reaction.

3. One cubic centimetre of extract interacted with 12 drops of serum taken before operation from Case 7 with a negative result.

4. One cubic centimetre of extract interacting with nine drops of serum from Case 13 gave a negative reaction.

Group IV.—The tests in this group were carried out with the hydatid fluid obtained from a liver cyst in Case 6. The clear fluid was passed through a Chamberland filter and thereafter remained sterile. It was stored in small flasks, and, after the lapse of a month, it was noticed that an abundant flocculent deposit had separated out in all the flasks, *the* superfluid remaining clear and sterile. This fluid had been tested with serum from the same patient one week after operation and gave a very large precipitate (cf. Group I., No. 3). It was then used for purposes of diagnosis to test the serum taken before operation *from seven different hydatid* patients, and gave distinct positive reactions with four of these and indeterminate reactions with the remaining three, in one of which the only cyst found was shrunken and degenerated. In two of the positive cases the circumstances were of more than usual interest. In Case 9 two separate precipitin tests were made in each instance with definitely positive results. Nevertheless, operation was delayed because the clinical signs pointed so strongly to *cirrhosis* of the liver. Later, however, an operation was performed and a hydatid cyst was found on the under surface of the liver compressing the portal vein. Again, in Case 11 a positive reaction was obtained, but at the first operation no lesion was found and the wound was closed up. A second precipitin test gave again a positive reaction, and a second operation was performed when a hydatid cyst behind the liver was found.

1. One cubic centimetre of fluid *from* Case 6, *one week* old, interacting with 12 drops of serum from Case 7 before operation gave a slight positive reaction. The serum from this case (7) gave a negative reaction with *extract of hydatid membrane (cf. Group III.*, No. 3) and an indeterminate reaction with the hydatid fluid from the same patient (cf. Group I., No. 4).

2. One cubic centimetre of hydatid fluid from Case 6, one month old, interacting with 10 drops of serum taken before *operation from* Case 9 gave a decided positive reaction. Operation was delayed (*vide supra*) and the test was repeated with similar results.

3. One cubic centimetre of hydatid fluid from Case 6, two months old, interacted with 13 drops of serum *taken before operation from* Case 10, but only a very slight precipitate was obtained and the result was [illegible] A few days later the test was repeated, but the result [illegible]

[illegible] hydatid fluid from Case 6, two months old, [illegible] s of serum from Case 11 before operation [illegible] *ion. At the first* operation no lesion was found, and the test was repeated with again a slight positive reaction. A sec[illegible] ation revealed the presence of a hydatid cyst (*vide supra*).

5. [illegible] hydatid fluid from Case 6, two months old, interacted with [illegible] serum taken before operation from Case 12 to give a slight positive reaction.

6. One cubic centimetre of hydatid fluid from Case 6, four months old, interacted with 11 drops of serum taken before operation from Case 14, but the precipitate was too slight to justify a positive diagnosis. At the [illegible] cyst was found.

[illegible] *from* Case 6, *four months old*, [illegible] Case 15 *before operation* gave an indeterminate result.

Group V.—Our fifth group of precipitin tests includes those conducted with clear hydatid fluid obtained from the liver cyst in Case 15 passed through a Chamberland filter and treated with *sodium arsenite, 50 cubic centimetres of the* filtrate receiving 0·5 *gramme of* sodium arsenite. With this fluid three tests were made on hydatid patients before operation, in two instances with positive results and *in* one instance with a negative result.

[illegible] from Case 15 + sodium [illegible] *taken before operation* [illegible]

[illegible] from Case 15 + sodium [illegible] Case 17 *before operation* [illegible]

3. One cubic centimetre of [illegible] from Case 15 + sodium arsenite interacted with 14 drops of serum *from* Case 20 before operation, but no precipitate was seen.

Discussion of results.—While we have obtained further evidence of recognisable and specific interactions between fluids from hydatid cysts and sera from hydatid patients, we have not been able to find a method of applying this reaction so that it will hold good *in* all cases in conditions of diagnosis. This failure appears to be due to difficulties relating to the serum of hydatid patients and to difficulties relating to the hydatid fluids.

In regard to the serum (antiserum) we must emphasise the great differences that exist between the hydatid antiserum *arising in the* human subject in conditions of accidental infection and precipitin antisera prepared by artificial injection of animals. In preparing a rabbit, in order to obtain a precipitin antiserum that will interact with blood serum or with egg-white to yield a good precipitate, moderate doses of the protein (from 0·5 to 1·0 gramme of dried protein) are introduced at intervals of two or three days until from 6 to 10 of such doses have been given, and the antiserum is withdrawn 10 or 14 days after the last injection. The precipitable content of such an artificial antiserum will be diminished, or may even disappear, if the injections are inadequate, excessive, irregular, or prolonged, or if the interval between the last injection and the withdrawal of the antiserum is too short or too long. With these somewhat rigid conditions essential to the preparation of a good precipitin antiserum we must contrast the conditions of protein interchange when the human subject becomes invaded by hydatid cysts. In the first place absorption of material from the hydatid cyst extends usually over a long period of time—certainly for months, often for many years—before the patient comes under observation, and the capacity of the human organism for reaction to the hydatid products may thus become exhausted. Moreover, the absorption of hydatid products may often be inadequate, and more often still it is probably irregular both in amount and in time.' On these grounds alone it is only reasonable to expect that the precipitable content of hydatid antisera from the human subject should inevitably be small in the majority of cases, and it is not surprising that in some cases it should be inappreciable.

In regard to the hydatid fluid we must note (*a*) that not *all hydatid fluids are equally capable of interacting with* hydatid antisera to give a precipitate, and that some appear to fail altogether; (*b*) that when hydatid fluid, filtered or unfiltered, is allowed to stand in a sterile condition a deposit slowly separates out and may form a considerable layer, and that this spontaneous precipitation may be associated with deterioration of the capacity of the fluid for interaction with hydatid antisera; and (*c*) that the low saline content of hydatid fluids may interfere with the precipitin reaction, since precipitin interactions are very susceptible to variations in the saline content of the fluid in which the interaction takes place. There may, however, be some way of overcoming the apparent unsuitability of some hydatid fluids for reaction with hydatid sera, for example, by modification of their saline content, but this last point did not occur to us while carrying out these tests.

Conclusions.—1. A precipitate was not obtained in any interaction between hydatid fluid and human serum from a patient not invaded by hydatid cysts. 2. Having regard to the long duration and probable irregularity of the interchange of protein molecules between a hydatid cyst and its human host, and having regard also to the possible unsuitability of the hydatid fluid, we must expect a certain number of precipitin tests to fail to give a satisfactory precipitate, and this has been our experience. 3. In the conditions of a diagnostic precipitin test as above described for patients suspected to harbour hydatid cysts, a negative reaction is inconclusive, but a positive reaction is conclusive of hydatid invasion, and the latter may be obtained in circumstances of clinical importance.

Sydney.

RECURRENT HÆMATOPORPHYRINURIA WITH TOXIC SYMPTOMS NOT DUE TO SULPHONAL.

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HÆMATOPORPHYRIN is present in normal urine, though in such small quantities that it does not alter the colour or exhibit its typical bands on spectroscopic examination. The term "hæmatoporphyrinuria" is reserved for those cases in which enough of this pigment appears to render the urine either of a port-wine colour or of a dark-brown hue, when the spectroscope will at once reveal the cause of the alteration. Such hæmatoporphyrinuria occurs under two sets of conditions: (1) after sulphonal, trional, or tetronal have been administered, when it forms one of a group of toxic symptoms of grave import; and (2) a disturbance of pigment metabolism, continuous over long periods, or recurrent and paroxysmal, for which in some cases diffused morbid conditions of the liver appear to be mainly responsible.[1] In the majority of these instances it does not seem to have had any evil significance. Occasionally, however, cases of hæmatoporphyrinuria occur, which, though not due to any administered drug, present definite toxic symptoms resembling the sulphonal cases in important particulars. Of this the following appears to be an example.

In June, 1906, a married woman, aged 22 years, was admitted to the Metropolitan Hospital, under the care of Mr. W. D. Harmer, for a severe attack of abdominal pain with vomiting and constipation. The vomited material was deeply bile-stained but never fæcal. It was noted that the urine was claret-coloured and that it contained a few blood cells, though not nearly enough to account for the colour. A few granular and epithelial casts were present; there was no bile or pus. No spectroscopic examination of the urine was made. Mr. Harmer decided that the patient was not suffering from intestinal obstruction, so large enemata were given, the patient being placed on milk diet. There was no improvement in her condition until the sixth day after admission, when the vomiting stopped and the bowels became fairly regular. The urine was still claret-coloured when she was discharged. Soon after this she miscarried. The urine subsequently became normal in colour and she enjoyed her usual health until April, 1907, when she had another attack of abdominal pain, vomiting, and constipation, for which she was treated at an infirmary. During this attack the patient noticed that her urine again became dark. She was quite well within a week and the urine soon regained its natural colour. On Feb. 28th, 1908, she had her third attack of abdominal pain, vomiting, and constipation, for which she was admitted to the Metropolitan Hospital, under the care of Mr. Peter L. Daniel, who, deciding that there was no evidence of intestinal obstruction, transferred her to the medical wards, where she came under our observation. She was very thin, of a dark complexion, with a good deal of pigmentation on the face and abdomen. The tongue was coated with a thick brownish fur. The teeth were good. Nothing abnormal could be discovered in the chest and the reflexes were natural. The abdomen moved well; there was no rigidity, no tenderness on palpation, and no evidence of free fluid. The liver dulness was normal and the spleen was not palpable. The pain complained of was referred to the umbilicus. A small amount of blood was found to be oozing from the anus, but nothing abnormal could be felt on rectal or vaginal examination. The temperature was 98° F., the respirations were 30, and the pulse was 90. The blood pressure was 110 and the administration of two drachms of adrenalin chloride solution by the mouth did not raise it. The patient passed only small quantities of urine which was dark brown in colour and strongly acid. It contained no blood corpuscles, albumin, sugar, acetone, or diacetic acid. On spectroscopic examination two bands were seen, identical in position with those of oxyhæmoglobin, which were unaltered in position on the addition of reducing agents or glacial acetic acid. Dr. A. E. Garrod reminded one of us in conversation that hæmatoporphyrin was often in combination with metals when present in the urine, in which condition it shows these two bands instead of those of acid or alkaline hæmatoporphyrin. The urine was accordingly treated with strong hydrochloric acid, when it became purple in colour and now showed the two bands typical of acid hæmatoporphyrin, their centres being approximately λ 605 and λ 565. Both before and after treatment with acid the band of urobilin just beyond the F line in the blue was very distinct. A specimen of the urine was sent to Dr. Garrod, who very kindly confirmed the presence of hæmatoporphyrin and urobilin in it. The patient was still vomiting and had become very drowsy and delirious. She had three epileptiform fits lasting for about five minutes each. The temperature was slightly raised. Small doses of calomel were given, but the bowels only acted in response to enemata for the first five days. The combination of toxic symptoms with hæmatoporphyrinuria naturally led to the suspicion of sulphonal poisoning, so large doses of alkali in the form of sodium bicarbonate were given, as advocated by Franz Müller[2] and by Stockvis. On account of the scanty urine an [illegible] tincture of [illegible] blood [illegible] by Mr. [illegible] owed 5,920,000 red corpuscles, 100 per cent. of hæmoglobin, and *9000 leucocytes.* The differential count showed a curious alteration in the proportions, 36 per cent. being polymorphonuclear, 50 per cent. small lymphocytes, 12 per cent. large mononuclear, 3 per cent. eosinophiles, and 1 per cent. basophiles. On the next day she was much better and quite clear mentally, though much prostrated. Recovery was rapid, but the urine continued to be brown, though not so dark in colour, and it still showed well-marked bands of hæmatoporphyrin. Constipation was the chief trouble and enemata had to be resorted to frequently. The patient left the hospital apparently quite well on March 26th. She continued to take a mild laxative and periodically presented herself for examination. Week by week the urine became lighter in colour, though the bands could still be detected until the beginning of June, when they entirely disappeared after the administration of a drachm of magnesium sulphate three times a day for one week.

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[1] Garrod · Transactions of the Pathological Society of London, 1894, vol lv., p. 142.

[2] Wiener Klinische Wochenschrift, 1894, S 252.

It will be noticed that the symptoms here described closely accord with those seen in the hæmatoporphyrinuria of sulphonal poisoning in which, Garrod and Hopkins[3] state, "vomiting, constipation (sometimes following an initial diarrhœa), and abdominal pain are the most constant symptoms. In a few cases febrile disturbance has been observed, but as a rule there is no rise of temperature." The patient denied, however, that she ever took any drugs except those given her by her medical attendant, who kindly informed us that he had never ordered her any sulphonal or trional. That these drugs were not responsible for her symptoms is further supported by the fact that she remained in hospital for a month, during which time no such drugs were given, and yet the hæmatoporphyrinuria persisted. It should be added that while in the surgical ward she was given a drachm of paraldehyde and eight grains of veronal, but the dark colour of the urine was noted before this, and we are not aware that these drugs have ever been found to produce hæmatoporphyrinuria.

Garrod has reviewed those cases of hæmatoporphyrinuria not due to sulphonal which had been recorded up to 1904. In that series there are only two which presented toxic symptoms similar to those here described. Ranking and Pardington[4] described this symptom in two women, aged 41 and 47 years respectively. The patients were both highly neurotic and subject to chronic gastric catarrh and menstrual disturbances. They were seized with vomiting, thirst, suprapubic pain, and profound prostration, but there were no signs of organic disease. They were in bed in different rooms of the same house, but were not related. One recovered, the other died. No sulphonal was given, and Ranking was convinced that in the fatal case, at any rate, none had been taken. A dose of acetanilide had been followed by some unpleasant symptoms which passed off, and in the second case acetanilide had not been given. We have found two other instances recorded since the publication of Garrod's paper.

Lestock Thornton[5] records the case of a man, aged 45 years, who was seized with griping pains in the abdomen, nausea, and slight diarrhœa. Then he passed some blood-stained mucus and some bright blood per rectum. There was tenderness over the ascending and transverse colon, but nothing could be felt on rectal examination. The urine was port-wine coloured but showed no blood to the guaiacum test. No grave symptoms were present at any time and the patient made a good recovery. Thornton considered that the symptoms could be most easily explained by a hæmorrhage high up in the colon. The difficulties in the way of this view will be discussed presently.

T. K. Munro[6] has reported three cases of hæmatoporphyrinuria not due to sulphonal, one of which appears to belong to the category now under consideration. A boy, aged seven years, had been subject to cyclical vomiting with acetonuria for two years. In the attack described he was very ill and could retain nothing. The vomit was coloured like coffee and he passed blood by the bowel. This attack lasted much longer than the former ones, though there were periods of several days in which vomiting did not occur. After it had lasted for about six weeks the urine for the first time was red in colour and was found to contain hæmatoporphyrin. This abnormal pigmentation of the urine continued until the boy died about a week later. By this time he was greatly emaciated. He had been free from vomiting for about six days before the end, but towards the close he threw up some blood on one or two occasions. At no time were drugs of the nature of sulphonal or trional administered.

The bleeding per rectum which occurred in Thornton's case, in Munro's case, and in our case, is of interest in view of Stockvis's suggestion that hæmatoporphyrinuria due to sulphonal is the result of hæmorrhage into the intestinal canal or its walls. Calvert[7] has recorded a case of hæmatoporphyrinuria in a woman, aged 32 years, after copious hæmatemesis from gastric ulcer, in which the patient made a good recovery. This might be held to support Stockvis's contention, though the patient stated that she had passed similar urine about a year previously when suffering from dyspepsia, but had no hæmatemesis or melæna. Patients often fail to notice the occurrence of melæna, however, and a stronger argument against Stockvis's view is provided by the fact that such hæmorrhages have usually been absent in sulphonal cases examined post mortem, while in other cases of hæmatemesis Garrod failed to find any noteworthy increase of urinary hæmatoporphyrin. The frequent association of hæmorrhage into some internal organ with hæmatoporphyrinuria, not due to sulphonal, is a noteworthy fact, whatever the explanation may be.

Recent additions to our knowledge of toxic alterations in the hæmoglobin molecule would suggest that the type of case here described is due to some intestinal intoxication. We advance this hypothesis with the more diffidence, since there is to-day a tendency to explain diseases, of which the pathology is unknown, in this way on inadequate grounds. The existence of intestinal intoxication is easy to assert, but difficult to prove.[8] The facts which seem to us to point to an intestinal intoxication are these: 1. The leading symptoms were those of an intense gastro-intestinal irritation, abdominal pain, vomiting, with the passage of blood per rectum, followed by much prostration, restlessness, and delirium. Similar symptoms were present in Ranking and Pardington's cases, in Munro's first case, and to a milder degree in Thornton's case also. The similarity of the symptoms with those of sulphonal poisoning suggest a toxic agent. 2. Hæmatoporphyrinuria has occurred in enteric fever (Soberheim[9]), and McCall Anderson[10] has met with it in recurrent hydroa æstivalis in two brothers. 3. The pronounced urobilin band shows that one body of putrefactive origin, at any rate, was being absorbed in excessive amount by the intestinal walls. 4. Sulphæmoglobinæmia occurs under conditions of constipation and is much relieved by systematic treatment with aperients. Van der Bergh, West and Wood Clarke,[11] Hurtley and Wood Clarke,[12] have shown that in the formation of sulphæmoglobin the blood pigment is first reduced and then combines with the sulphur. Now Laidlaw[13] found that hæmoglobin would break down into hæmatoporphyrin much more readily in the reduced state than when containing oxygen. This suggests that in both cases some reducing agent is at work, and the intestinal symptoms point to the alimentary canal as its source. Magnesium sulphate relieved West's case of sulphæmoglobinæmia and our case of hæmatoporphyrinuria. On this view we have in methæmoglobinæmia an interesting analogy with hæmatoporphyrinuria. The former has been proved to result either from drugs of the aniline class or from intestinal intoxication; the latter can be produced by sulphur-containing derivatives of the aldehydes and apparently by intestinal intoxication also.

In conclusion, it must be admitted that hæmatoporphyrin alone does not account altogether for the altered colour of the urine, as was pointed out by Hammersten. Garrod found that he could remove the hæmatoporphyrin so completely from the urine in one of his cases that its spectrum was no longer seen, without appreciably affecting the colour of the urine, while if he added this pigment to normal urine until its absorption bands were visible with as great intensity as in the darkest specimens, only a comparatively insignificant change of tint was produced. In the present case excess of alcohol precipitated a considerable quantity of the abnormal pigment. Alcohol acidified with acetic acid took up the hæmotoporphyrin from this, but left a brown pigment behind. The nature of this residue is at present unknown. Garrod and Hopkins think that in some instances much of it is a derivative of hæmatoporphyrin, but that even this cannot be asserted of all the cases. The large number of red corpuscles present in the case here described would seem to negative any excessive hæmolysis. This is in agreement with Garrod's conclusion that a perversion, rather than an increase of hæmoglobin katabolism is responsible.

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[3] Journal of [illegible]ology, 1896, p. 434.

[4] [illegible] 0, p. 607.

[5] [illegible] 04, p. 888.

[6] Qua[illegible], vol. i., p. 49.

[7] Transactions of the Clinical Society of London, 1901, vol. xxxiv., p. 41.

[8] Langdon Brown: Medical Press and Circular, July 22nd, 1908, p. 82.

[9] Quoted by Munro in Quarterly Journal of Medicine, vol. i.

[10] British Journal of Dermatology, 1898, vol. x., p. 1.

[11] THE LANCET, Feb. 2nd, 1907, p. 272.

[12] Journal of Physiology, vol. xxxvi., p. 62.

[13] Ibid., vol. xxxi., p. 464.

NOTE ON A CASE OF INTUSSUSCEPTION OF THE SIGMOID FLEXURE OF THE COLON.

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INTUSSUSCEPTION of the colon, simulating a simple prolapse of the rectum, is, judging from the small number of cases recorded in recent literature, a comparatively rare accident. In fact, intussusception in the adult is not often met with, and is usually caused by a polypus situated low down in the pelvic colon. The following case affords some points of interest that make it worth recording.

The patient, a female multipara, 44 years of age, was in her usual health up to August 31st, 1908, when, feeling out of sorts, she took a dose of Epsom salts and cream of tartar. Later, when at stool, she felt a "wrench" inside and something came out at her anus. A good deal of blood and mucus was passed. She was admitted to my ward on Sept. 1st, as a case of prolapse of the rectum, and was suffering a good deal from pain over the lower abdomen. A sausage-shaped tumour, from 8 to 10 inches in length, protruded from the anus. It was red and swollen and at the apex was a sloughing polypoid mass. The patent lumen was discharging mucus. She was vomiting a brownish fluid, not stercoraceous, and her pulse was good, its rate being 60 per minute. Two hours later she was given chloroform with the object of reducing the prolapse per anum. On examination the finger could be passed into the rectum between the tumour and the sphincter without obstruction from the cul-de-sac. The polypus had a fairly broad base and was sloughing at its posterior segment. A circular ligature was applied and the mass was cut away flush with the mucosa. An attempt was then made to reduce the bowel with one hand in the rectum and the other steadying the tumour extra-abdominally, but only about six inches of the intussusception could be thus returned. The apex was fixed and it was feared that further manipulation might cause rupture; and, as there was doubt both as to the nature of the polypus and the vitality of the mesenteric sector laparotomy was performed. The abdominal wall was unusually filthy, as the patient was suffering from what proved to be a pustular scabies all over the body, and especially marked by scratches and small ulcers over the lower abdomen. The skin was cleaned as usual with a depilatory containing oxide of lime and sulphide of soda, and the edge of the wound was sutured to sterile lint as soon as the median incision was made, thus shutting off the septic surroundings as far as possible. The tumour was easily located and brought out. It consisted of colon entirely, and its distance from the anus was about 20 inches. The intussusception was easily reduced, but its site, with about three inches of healthy bowel on either side, was fixed outside the abdominal wall. Dr. A. Leitch examined the polypus microscopically and reported it to be a simple villous papilloma.

An opening in the bowel was made next day without any anæsthetic. The mesenteric segment from which the tumour arose was necrotic, and the whole mass was removed, the lower opening being closed by circular ligature and the mesentery tied *en masse*. This caused considerable pain. The artificial anus acted well, and the patient quickly regained her normal strength. An attempt was made to get the skin cleaned prior to closing the colostomy, as, owing to the urgency of her condition on admission, little could be done then. The real nature of the skin rash was not suspected, and ordinary measures did not improve the condition to any extent, especially round the wound. The left hypogastric region was the least septic, as well as nearest the descending colon, and I decided to enter the abdomen there. Owing to the great length of the sigmoid and mesosigmoid, I anticipated little difficulty in doing a lateral anastomosis and excising the colostomy ends after evaginating them through the colostomy opening. As such an operation was likely to take some time, the patient was given a hypodermic injection of a quarter of a grain of morphia and 1-100th grain of scopolamine on the night before the operation, and a similar dose on the next morning. The operation lasted nearly two hours, yet less than one ounce of chloroform was used and the patient slept on for five hours after the operation. There was no shock, the pulse being quite slow, though occasionally missing a beat towards the end of the operation.

On opening the abdomen the two ends of bowel were sought for, when it was found that the lower end was fairly tense, being held up by a twist round the upper end. The upper end was pulled out, crushed by the enterotribe as near the colostomy opening as possible, ligatured, and both ends invaginated by purse-string sutures. These were reinforced by a continuous Lembert. The mesocolon of the colostomy end was next ligatured piecemeal, each part being divided between the ligature and the bowel immediately the ligature was tied. There was practically no hæmorrhage. The rectal end was then brought out and treated in a similar fashion. The two ends of the bowel were now laid side by side and a lateral anastomosis was made, leaving an opening of about 1½ inches. There was some difficulty in doing this outside the abdomen owing to the amount of sigmoid, about 12 inches, which had already been resected. The ligatures on the mesocolon were tied together in a mass and a few stitches added to close the rent in the mesocolon. An attempt was then made to evaginate the two loops of bowel connected with the colostomy opening from the inside through their central openings. This was the most difficult part of the operation and in both cases the finger was pushed through the side of the bowel where section of the mesocolon had left it uncovered by peritoneum, but as this happened after nearly complete evagination, and as there were no fæces in the parts, no harm resulted, though it is hardly possible that no organisms reached the peritoneum during the withdrawal of the finger. The lateral incision was closed by layer sutures of silk. The two ends of the bowel protruding through the mesial openings were ligatured with strong catgut and cut away flush. A sterile dressing was applied to both wounds.

On the next morning the temperature rose to 102° F. and the pulse-rate to 112. On the second day after the operation the central wound was smelling badly and the projecting bowel was black and necrosed. The temperature was then 100°. A sterile gauze dressing was reapplied after sprinkling the sloughs with iodoform. During the next few days the patient's condition was rather poor and she complained of pain in the left side, and on the ninth day after the operation the side wound was seen to be bulging and was opened, when a quantity of pus and a gauze swab escaped. Recovery after this, so far as the abdomen was concerned, was uneventful, but later the patient developed a high temperature due to a septic ulcer of the tonsil, with some arthritic effusion, from which she soon recovered. The tonsillar ulcer yielded to specific treatment.

Looking back over the case, the following reflections are suggested:—1. Would it not have been better to have simply anchored the doubtfully necrosed area at the first operation with gauze tampons till its vitality or otherwise could have been ascertained, or to have excised it at once? 2. Would not the ordinary method of closing the colostomy wound by excision of the opening and lateral anastomosis through the same opening, even with its septic surroundings, have been safer? A gauze drain could have been left in as a safeguard. 3. Would this method of evagination have been more satisfactory if the mesentery had been doubly tied before division and the bowel pulled out by a pair of long forceps instead of evaginated with the finger from the inside? This could have been done more easily if the external openings had first been stretched a little and the apex of the loop then seized by an assistant with forceps, the operator guiding the forceps internally.

Maunsell's method of dealing with intussusception did not seem well adapted to this case owing to the high origin of the trouble, and the union at the mesenteric border is always a weak spot. Bishop records a case where he first did a colostomy, but the advantage of such a preliminary step in preference to treating the whole condition through a cœliotomy wound is not very apparent.[1] Oderfeld's operation,[2] with immediate resection, is the best yet suggested when the conditions of the patient and of the bowel are satisfactory, but as in simple resection any paralysis of the bowels would tend to a rupture at the suture line, the intussusceptum should always be removed per anum at the time of the operation, and the lower bowel irrigated with warm sterile salt solution.

The usual method of closing a colostomy wound by excision is not very satisfactory, inasmuch as the surrounding skin cannot be rendered sterile and a general peritonitis cannot with certainty be avoided. With thin and lax abdominal walls the method here adopted is not difficult, and the colostomy wound could be excised after the pieces of bowel have been evaginated if preferred. This would open up the peritoneal cavity, but there would be no manipulation of its contents through the opening. The external ligature round the bowel approximates serous to serous coats, and could be done with more safety if the peritoneum were fixed to the skin at the first operation. A second closing might be necessary to prevent hernia, but the whole aim of the surgeon should be the safety of the patient and not the brilliancy of the operation.

Dundee.

A CASE OF DISEASE OF THE HIP-JOINT DUE TO STREPTOCOCCAL INVASION, WITH SECONDARY MANIFESTATIONS IN OTHER PARTS.

BY W. OLIVER BEDDARD, L.R.C.P. LOND., M.R.C.S. ENG.

THE following notes on a case of disease of the hip-joint, proved to be due to streptococcal invasion, may seem worth recording as showing the resemblance which it bore in early stages to tuberculous disease and the rapidity with which destruction of bone took place, practically without pain or more than slight disturbance of temperature, and also adduce some evidence as to the value of treatment by a vaccine prepared from the patient's bacteria.

The patient, aged 12 years, a healthy-looking, well-nourished boy, was first seen on Sept. 14th, 1907. He then complained of pain on the outer side of the right thigh. He could move about the room with the aid of a stick, holding the right leg flexed at the hip and knee so that the toes only touched the ground. Pain was felt in the thigh only; none in the hip or knee. On examination there was found to be no tenderness of muscle in the area of pain and no tenderness of the femur. The hip-joint was held fixed and any attempt to move the joint or to extend the knee caused the occurrence of pain in the thigh; no fulness or fluctuation in connexion with the hip could be detected; there was lordosis of the spine. Eight days previously the patient had complained of pain in the thigh which had caused him to be somewhat lame for three days, when it disappeared entirely, so that he could run about and play lawn-tennis. On Sept. 13th he had again become a little lame and was kept awake that night by pain in his thigh. There was no history of illness; he was in particularly good health, having recently returned from a holiday at the seaside. There was no definite history of injury beyond that ten days previously he had been on a water-shute. On the first trip he sat in front and when he got off he said his back hurt him; however, he made other trips, taking a back seat so as not to feel the bump so much; he also made some trips on a switch-back railway. He seemed quite well on arrival home and made no further reference to pain.

As a result of extension the limb became quite straight and pain subsided in a few days. Deep pressure over the hip-joint elicited some signs of pain. On Oct. 5th a skiagraph was taken by Dr. A. H. Greg. This revealed nothing abnormal in the hip-joint. From Sept. 14th to Nov. 26th (the ninth to eighty-second days of illness) the patient, treated with rest and extension, was practically free from symptoms except for occasional attacks of sickness lasting one or two days. There was at the latter date no real or apparent difference in the length of the legs. The temperature was only slightly above normal. On Nov. 26th (the eighty-second day of illness) a soft semi-fluctuating swelling appeared in the right groin; there was great tenderness over and around the swelling and over the great trochanter. The temperature at night was 103° F. This swelling rather quickly subsided and had disappeared by Dec. 3rd. On the 11th (the ninety-seventh day of illness) the patient complained of pain in the left side, particularly after coughing, and that he had been kept awake by throbbing pain. Examination revealed a tender swelling which gave a doughy sensation to the touch, its centre was a little to the inner side of the middle of Poupart's ligament, it encroached two or three inches over the abdomen, obliterating resonance, also over the upper part of Scarpa's triangle. There was no tenderness on the posterior aspect of the hip. The swelling appeared to be confined to the tissues over the joint, the joint itself not being involved. The boy looked ill and flushed. The morning temperature was 99°, that of the evening being 102°. This swelling gradually subsided, leaving the inguinal glands hard and tender. On the 16th (the one hundred and second day of illness) there was a similar tender swelling at the upper part of the inner side of the thigh on the same side, which gradually extended downwards along the inner side of the thigh from the apex of Scarpa's triangle to the popliteal space and eventually as far as the middle of the back of the calf. As the swelling passed down the leg it cleared up above. After all swelling had disappeared hard tender glands could be felt in the popliteal space and in the back of the calf. Whilst this train of symptoms was in progress the temperature was fairly consistently in the morning 100° and in the evening 101°; at its conclusion it fell practically to normal. On Jan. 4th, 1908 (the one hundred and twenty-first day of illness), a blood examination was made by Dr. E. E. Klein with cultures on surface agar plate, surface agar tube, and broth tube. The result showed the blood to be quite sterile, no microbe of any sort having developed in these cultures after 48 hours at 37° C. In the meanwhile the right hip treated with rest and extension had given rise to little trouble. There was some enlargement of the great trochanter, which was a little tender on pressure; there was also some tenderness over the posterior aspect of the joint. On Feb. 6th (the one hundred and fifty-fourth day of illness) the patient complained of painful twitchings in the right thigh, the pain being chiefly felt on the outer side of the thigh (the original site of pain); there was also some pain in the knee. On examination there was found to be a more general enlargement of the trochanter, which was also more tender; pressure upon it elicited spasms in the muscles of the thigh. These starting pains were not severe; they occurred only during the daytime at intervals of two or three hours and ceased entirely after a few days. On the 16th (the one hundred and sixty-fourth day of illness) there were obvious differences in the bony relations of the two hips and the right leg showed nearly one inch of shortening. Dr. Greg took another skiagraph, concerning which he made the following report:—

> The femur is displaced upwards, the upper lip of the acetabulum is absent. The whole surface of the acetabulum is rough. The femur is intact but very much rarefied, not, however, with the rarefaction typical of caries. The dislocation is accompanied by extreme external rotation. The points unlike ordinary tuberculous disease are the dislocation without any destruction of head of femur (this I have not seen in tubercle) and the rarefaction not being typical. The destruction of the acetabulum has been very rapid. The x ray examination strongly supports the view that the disease is not tuberculous.

On Feb. 23rd (the one hundred and seventieth day of illness) an operation for excision of the hip was performed by Mr. E. M. Corner, the anæsthetic being administered by Dr. Z. Mennell. An anterior incision was made over the joint, upon opening which a little clear fluid escaped. The head of the femur having been cleared with an elevator and the neck sawn through the head of the bone was extracted. The bone removed was exceedingly light and friable; portions of it were immediately placed in a sterilised bottle for examination by Dr. Klein. Exploration of the acetabulum showed it to be extensively destroyed. A false acetabulum had been formed above the real one. The old acetabulum was removed entire—it consisted merely of a shell of friable bone; the new one was also easily removed almost entire; above and [illegible] around these aceta[illegible] Only remnants of [illegible] was encountered [illegible] thoroughly curette[illegible] The wound was co[illegible] healed by first in[illegible]

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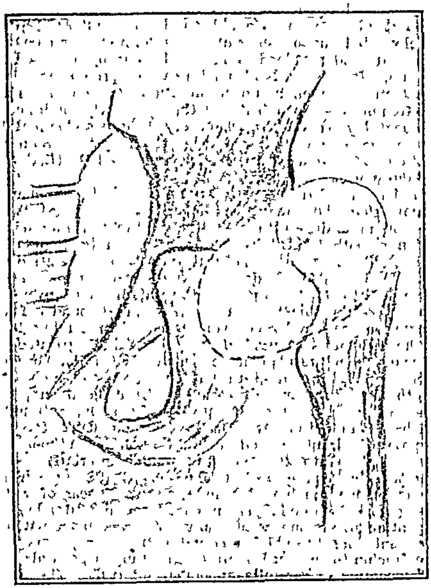
[1] Brit. Med. Jour., Dec. 22nd, 1900.

[2] Centralblatt fur Chirurgie, No. 10, 1899.



Outline drawing of the deformity. (From a skiagram.)

On March 6th (the one hundred and eighty-third day of illness) the patient's right knee was found to be swollen. Examination showed the knee to be tender to touch; downward pressure upon the patella so as to bring its posterior surface in contact with the condyle of the femur caused much pain; there was no pain except when the knee was touched. There was a considerable amount of fluid in the joint. The synovial membrane appeared distinctly thickened [illegible] but rather tended to increase. The knee gave a doughy sensation to the touch. Dr. Klein reported as follows:—

[illegible] the microscope exhibited distinct streptococci: some of these were short, composed of four cocci; others were longer, up to [illegible] colonies, which in two days caused distinct liquefaction. When liquefaction has well progressed—i.e., after about a week—the liquefied [illegible]

From the Louis Jenner Clinical Laboratory, to which Mr. Corner sent portions of bone, the reply, as the result of an examination of the microscopic sections, was that they presented "no evidence of tuberculosis." [illegible] ness, though [illegible] dily losing [illegible] in a very wa[illegible], the appetite was very poor, and any attempt to increase the amount of food resulted in troublesome sickness. A curious symptom which persisted through the illness was desquamation of the skin; this occurred constantly all over the body but was most marked on [illegible] case that the sheet upo[illegible] with epithelial scales. [illegible] such an extent as to leave raw tender places on the toes. Associated with this desquamative process was a marked tendency to the formation of sores. These sores would result from the pressure of the softly-padded leather used in connexion with the extension apparatus. The sores were shallow with shelving sides, healing slowly under thick scab; they proved a difficulty in carrying out treatment by extension. The first injection of vaccine was given on March 1st; they were continued for eight injections at intervals of four days. The progress of the case from this time onward was entirely satisfactory. The boy's condition wonderfully improved, he rapidly regained the loss of flesh, the sickness ceased, the sores healed, and the desquamation disappeared.

At the present time (one year after operation) the patient is able to walk with the aid of a walking stick; there is shortening of the right leg to the extent of about one inch; the right knee is somewhat enlarged, its range of movement has steadily increased so that it can now be almost completely flexed.

On reviewing the case one cannot but feel a regret that the nature of the micro-organism was not discovered earlier and a vaccine prepared therefrom used, but there were obvious difficulties in the absence of signs of fluid or pus in the hip-joint and the negative evidence of the early x rays and blood examination. Bearing in mind the threatening aspect of the knee-joint and its almost certain identity with the disease in the hip, it seems reasonable to believe that the course of this destructive disease might have been cut short by the early use of a vaccine. The difficulty which presents itself is, how could a portion of the bacterial tissue have been obtained in the early stage of the disease without exposing the patient to grave risk, when there appeared to be no symptom which indicated the unlikelihood of recovery under expectant treatment?

It would seem possible, had the blood examination been made during the time of the acute manifestations in the left leg, pointing to systemic invasion, or a culture have been made from lymph, withdrawn by a syringe, from swelling, that the microbe might have been then found.

It is instructive to notice that the x rays proved of no practical value in the early stages, as was also the case in another patient, shown at the Hospital for Sick Children, Great Ormond-street,[1] who presented an almost precisely similar clinical picture, but later they demonstrated the condition very clearly and accurately. The resemblance which such a case bears to tuberculous disease makes the diagnosis a matter of great importance and of considerable difficulty. As to the mode of infection in this particular case there is no evidence; there were no symptoms of even trivial illness preceding its onset.

Twickenham.

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[1] Medical Press and Circular, April 1st, 1908, pp 363-376

AMERICAN PROCTOLOGIC SOCIETY.—The eleventh annual meeting of this society will take place at Atlantic City, New Jersey, on June 7th and 8th. An interesting programme has been set down for discussion. The President of the Congress is Dr. George B. Evans of Dayton, Ohio, and the secretary is Dr. Lewis H. Adler, jun., of Philadelphia.

AN INTERESTING CASE OF APPENDICITIS: PERFORATION; OPERATION; RECOVERY.

BY T. WILSON PARRY, M.A., M.D., B.C. CANTAB.

THIS case of appendicitis is interesting because the patient was only 16 months old, while the condition was otherwise unusual. Moreover, the patient when an infant five months old suffered from fistula in ano, and it is not often that a medical man is called upon to attend a patient for two rare surgical affections in the first six months of life.

The patient was a boy, who was born on June 10th, 1907. He was a posthumous child, his father dying at the age of 33 years, after a short three days' illness, three weeks before the child was born, of what was called an acute asthmatical attack. I did not attend him, but am informed that he had had a bad attack of influenza in the preceding December, from which he never properly picked up, losing flesh steadily, till this acute attack intervened, from which he did not recover. There appears to have been a history of tuberculosis. When the child was a month old the mother noticed when bathing him a thickening of about the size of a small pea situated deeply in the right ischio-rectal fossa. The child had no pain and I left instructions that it should be carefully watched by the mother and if it grew larger or altered in any way I was to be immediately informed. When the child was four months old the little place had slowly become larger, so that I was able to detect fluctuation. On Oct. 7th I cut down under an anæsthetic, evacuated a few drops of pus, thoroughly scraped the part, and expected it to heal up forthwith. It did not heal and a second "pointing" occurred, not far from the original one, but not communicating with it, which I also opened. There were now two separate sinuses for a few days till the last one that was opened suddenly closed up. Although I could not discover any opening into the rectum I naturally began to consider it to be a case of fistula in ano. Mr. G. B. Mower White, who kindly met me in consultation, confirmed my diagnosis and told me that it was the first case of fistula in ano he had seen in an infant. I passed a probe in the usual manner through the wound into the rectum, cut down upon it, scraped thoroughly and dressed in the accustomed way for fistula, and the case healed soundly in one month's time.

That fistula in ano is an exceedingly rare affection in children under two years of age there can be no question. I have been unable to find a case recorded. I have been unable to discover whether the fistula in this instance was, or was not, of tuberculous origin.

I was called again to attend the same little patient on Oct. 9th, 1908. The mother told me he had had a restless night, whimpering and tossing incessantly. His fingers had been constantly in his mouth and he appeared to be cutting one of his four remaining still uncut molars. Two months previously to this he had had a teething attack accompanied by an obstinate paresis of the bowel which had lasted five weeks, and which aperients and enemata had the greatest difficulty in overcoming. Since that time, however, the child had been in excellent health. His mother told me that his bowels had been properly opened on the preceding day, but she had given him a dose of castor oil that morning before I came. On examination the temperature was slightly subnormal, there was no sickness, and the abdomen (usually large) was neither distended nor at all rigid. In the evening the temperature rose to 102° F., but there was still no sickness or abdominal rigidity. As the bowels had not been opened I gave an enema of plain warm water and the result was good. On the next morning (Oct. 10th) the temperature was again subnormal and I may here say, as it became a point of special interest in the case, that with one exception, and that when it rose only four points, the temperature remained subnormal during the whole of the rest of the attack both before and after operation. In the evening, as the bowels had not acted, I gave another enema, but this time only with slight success, what was passed being extremely offensive. There was still no sickness, but a slight abdominal rigidity had appeared which was more marked over the right abdomen. During the next two days (Oct. 11th and 12th) sickness intervened and there was undoubted pain in the abdomen, which, however, was much relieved by frequently applied hot fomentations. The pulse was good. In the evening of Oct. 12th when I called I found the child asleep and I was enabled to partly examine the right iliac fossa without waking the child up, only eliciting a single cry when my finger touched the bottom of the fossa. I could feel no lump and the abdominal rigidity appeared to be less, though there still existed a noticeable difference between that on the right and that on the left sides. I was now able to eliminate intussusception, no elongated tumour being discoverable, no tenesmus having occurred, and no blood or mucus having been passed per rectum. It was clearly also not a case of primary intestinal obstruction. Summing up the situation my feeling was that the trouble was appendical and this was partly confirmed on the next day (Oct. 13th), when very definite abdominal distension first made its appearance, which by the evening of that day became much increased, and I asked Dr. G. F. Still to kindly meet me in consultation.

Under chloroform we were both able to feel, on bimanual examination, abdominally and rectally, a thickening between the examining fingers a little to the right of the middle line, which we both decided was more than probably an inflamed and swollen appendix. Surgical aid became imperative and Mr. H. Stansfield Collier who had been summoned cut down a little to the right of the middle line, over the spot where the thickness had been felt, and found a fæcal concretion, rather larger than a cherry-stone, lying loose in the abdominal cavity. He then carefully separated the appendix from the bladder, to which viscus it had become adherent, and removed it. It measured two inches in length, was large and club-shaped at the distal end, and was perforated about half an inch from the extremity. Further, an incision was made in each flank for the purpose of drainage and a rubber drainage-tube was inserted also into the operation wound anteriorly. The operation was performed at 9.30 P.M., after which an enema of one drachm of brandy in two ounces of water was given. At midnight an enema of one drachm of turpentine in six ounces of soapy water was given without any result and the child was fed entirely on panopepton (one drachm to an ounce of water) given in teaspoonfuls and half-spoonfuls at carefully appointed intervals. The child was continuously restless all night, but kept down what food was taken till 12.40 P.M. on the next day (Oct. *14th*), when vomiting again returned. This occurred at three other times during the day. At 2 P.M. the tube in the operation wound was removed and a six-ounce enema of turpentine and soapy water was given per rectum when some flatus was passed. At 4 P.M. a quarter of a grain of calomel was given and at 9.30 P.M. another injection of turpentine and soapy water was administered, but with no result. On Oct. 15th the child vomited eight times. At 9 A.M. I gave three enemata consecutively, each consisting of a drachm of turpentine, a drachm of ether-soap, and six ounces of water, but there was still no action of the bowels. In spite of this last-mentioned fact abdominal distension was markedly less, so much so indeed that a drainage-tube in the right flank became bent at an angle, the skin moving downwards fully three-quarters of an inch. As the tube was now rendered useless by virtue of the kink produced I removed it. I now put the child on one-eighth of a grain of calomel every two hours to endeavour to create a peristalsis, and these powders were continued until a full grain of the salt was given. The result was excellent. After the second powder had been given the vomiting ceased, and when at 6 P.M. I again repeated my three consecutive enemata of the morning a fairly good motion with much flatus was passed. At 1.30 A.M. on the 16th the child was very restless and in much pain, but the passing of a rectal tube liberated a large quantity of flatus and gave immediate relief. An enema was again given at 4.30 A.M., but without success; but at 6 A.M. a small motion was passed naturally. At 4.30 P.M. another enema was given and this time a good result was obtained. I now took the child off panopepton and put him entirely on two drachms of Theinhardt's food with one and a half ounces of milk in six ounces of water. Flatus was now passed frequently. On the 17th the milk was increased by half an ounce in each feed of six ounces. The bowels acted twice slightly and once well. On the 18th I removed the third tube. The discharge from the wounds was now not nearly so offensive. The wounds were dressed twice a day and the discharge, when thick, scanty, and offensive, was thinned and increased by lightly packing the wounds with ribbon gauze soaked in a 2 per cent. solution of both citrate of soda and sodium chloride. From this time forward the child made an uninterrupted recovery. By the end of the third week the wound in the left flank was entirely healed, while those in the middle and in the right flank were reduced to small healthily healing sinuses. At the end of the month all the wounds were sealed.

True appendicitis is a rare disease in children under two years of age. Before the year 1897 no cases were recorded in the epitome of diseases to be found in the annual reports of the Hospital for Sick Children, Great Ormond-street. In that year there was a case in a child, aged 22 months, which passed off successfully without an operation. In 1902 there was a child, aged four months, with appendicitis in a hernial sac; an operation was performed and the child recovered. In 1903 a child, aged 21 months, suffering from some other disease, had a passing mild attack of appendicitis while in the wards of the hospital and got well without an operation. In 1905 there was a child, aged eight months, who had a ruptured appendix with general peritonitis; an operation took place, but the child died. In 1907 there were three cases of appendicitis, but all of them in hernial sacs, and these were all operated upon successfully. Summing up, then, since 1907 there were seven cases in all of appendicitis occurring in children under the age of two years. Of this number four of the cases were ones of appendicitis in hernial sacs. Of the remaining three cases, two of them appear to have been under physicians and did not pass into the hands of the surgeon, while the last one—the only one of this kind operated upon—died. This case of mine, therefore, in relationship to these statistics, stands alone, as it is the only case of a child under two years of age who, suffering with acute appendicitis not in a hernial sac, has been operated upon successfully and has lived. I happen to have heard privately of one other case similar to this one now published. The child was 14 months old and made an excellent recovery. Mr. Collier was the surgeon in this case also.

Crouch End Hill, N.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF ECLAMPSIA.

BY W. BOXER MAYNE, M.R.C.S. ENG., L.R.C.P. LOND.,

ASSISTANT MEDICAL OFFICER, GREAT WESTERN RAILWAY WORKS, AND SURGEON TO THE VICTORIA HOSPITAL, SWINDON.

A FEW months ago I reported in these columns a case of eclampsia in which the convulsions at once ceased on the production and completion of labour, the morphia treatment having apparently failed. The following case, an example of the fact that some source of irritation to the system—viz., the pregnant uterus—is not by any means a necessary element in the causation of this terrible complication of labour, would, however, point to the great efficacy, in certain cases at least, of hypodermic injections of morphia in the control of the fits, even though the kidneys may be markedly deranged.

The patient, a young primipara, aged 21 years, had noticed that for about a month prior to her confinement her face in the morning had been somewhat puffed and she had been troubled with almost intolerable irritation of the skin. I was called to her confinement at about 9.30 o'clock one evening finding full dilatation and the pains weak. Progress being consequently slow I delivered with forceps. All went well till the placenta, &c., were passing the vulva when (at 10.15 P.M.) there came on a severe eclamptic fit and in the course of the next ten minutes two more occurred.

From this time to 7 A.M. on the next day the patient had no recurrence of the fits, and though at times she was restless and very sick she continued in a very heavy, dazed state. At 7 A.M. a sixth fit occurred, whereupon I gave the patient a hypodermic injection of a quarter of a grain of morphia and one-sixtieth of a grain of strychnine. At 9.30 and at 10.15 A.M. the seventh and eighth fits respectively occurred. I now, in addition to the hot packs that had been kept up throughout, gave the patient a saline injection of four pints (together with two drachms of bromide of potassium, 20 grains of chloral, one ounce of sulphate of magnesia, and one ounce c

bowel. Ur

absolutely motionless; at 1 o'clock, however, she had her ninth fit, half an hour later a tenth, followed shortly by the eleventh, each being as severe as the first. I then gave another hypodermic injection of half a grain of morphia. By 9.30 P.M. the patient had much improved and had become sufficiently sensible to be induced to drink two glasses of milk and some diaphoretic and bromide mixture. A very good night followed, the patient taking milk at intervals, and by the next morning she was able to recognise those tending her. During the day urine was passed freely, which on examination was found to contain much albumin. Whether on the second day of her illness the patient passed any urine it is hard to say since she was constantly in the hot wet pack. All albumin had disappeared by the fourth day.

Whilst taking precautions to produce abundant perspiration and free action of the bowels my experience in five at least out of six cases has been that hypodermic administration of morphia is a most valuable method of treatment in eclampsia whether occurring before or after labour. I only regret that in the case just described I did not push the morphia more.

Swindon.

A CASE OF VENTRICULAR HÆMORRHAGE SIMULATING ECLAMPSIA.

BY ALAN RANDLE, M.D., B.S. LOND., M.R.C.S. ENG., L.R.C.P. LOND.,

LATE ASSISTANT MEDICAL OFFICER TO THE LAMBETH INFIRMARY.

I WAS called out early on Nov. 16th, 1908, to attend a multipara, aged 43 years, for a "fit." The friends gave a history of headache and lassitude for 10 days, culminating in a general convulsion lasting a few minutes. The patient was found to be six months pregnant but the fœtal heart was not audible. She was semi-conscious; the conjunctiva reflex was present and the pupils were equal and small; there was intermittent clonic twitching of the left shoulder muscles and purposive movements were retained; both knee-jerks were absent but no paralysis was discoverable. With the fit there had been no cry, no biting of the tongue, and no incontinence. The tongue was fairly clean and the pulse was weak and rapid. After staying with the patient for some time she recovered full consciousness and understood what was said to her, but could not speak. She was moved into the infirmary, where she recovered speech. The urine was found to be half solid with albumin, which only very gradually decreased under treatment. On the day after admission the patient got out of bed as she saw imaginary people in the ward; on the whole she was lethargic, but would speak when roused. She suffered intermittently from paralysis of the bladder and the bowel, necessitating catheter and enema; occasionally these functions were normal. Sensation was of the disordered type seen in hysteria, with no true anæsthesia. The patient was sometimes able to talk to her husband, though not to me. Five days after admission she gave birth to a six months partly macerated male fœtus, the skin peeling off it in places. The general condition slightly improved after labour, which was absolutely painless, and a confident diagnosis was made of eclampsia, with a large superadded functional element, accounting for her retention, disordered sensation, and intermittent aphasia. The patient continued in much the same state for three more days, when the pulse-rate went up to 130. On the next evening she had a fit after an enema. There was a general tonic spasm, followed by restless movements; the left pupil was dilated and fixed, oval in shape, with the long axis vertical. The right pupil was normal and the conjunctival reflex was preserved on that side. She soon became fully conscious again and spoke to her husband. On the next morning she had two fits of the same nature and during the second she stopped breathing, although the heart continued regular and strong. Artificial respiration was carried out, but the heart gradually weakened and stopped.

At the post-mortem examination it was found that the kidneys were of the red granular type and that the liver was deeply congested, but there were no hæmorrhages into it or under the capsule. The heart was hypertrophied, but there was no atheroma of the vessels. There were a few minute hæmorrhages on the surface of the brain and a right ventricular hæmorrhage apparently starting from an anterior perforating artery and later bursting into the ventricle. Some of the hæmorrhage was old and the brain was softened and pigmented (even some of that apparently in the ventricle); the rest of the hæmorrhage was recent and it nearly filled both ventricles, extending down the iter to the fourth ventricle, pressure on the respiratory and vaso-motor centres obviously being the cause of death, the respiratory succumbing first.

Although cerebral hæmorrhage often complicates eclampsia this does not seem to me to be a case of the diseases co-existing. The liver and the kidneys were not typical of the condition, nor were the convulsions epileptiform in character. The pregnancy would undoubtedly much aggravate the existing renal disease and lead to a great rise in blood pressure, this in its turn leading to the hæmorrhage. The intermittent nature of the signs would seem to be due to the free absorption of lymph under pressure by the choroid plexus. I have reported the case owing to the great initial difficulty in diagnosis leading to serious error in prognosis.

I am much indebted to Dr. M. H. Quarry, the medical superintendent of the Lambeth Infirmary, for permission to publish this case.

Lambeth Infirmary, S.E.

Medical Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Gas in the Stomach.—Port-wine Coloured Urine.

A MEETING of this section was held on March 26th, Dr. W. G. SMITH, the President, being in the chair.

Mr. F. K. CAHILL read a paper on Gas in the Stomach. He defined the terms "fermentation" and "putrefaction"—the former being mainly applicable to the decomposition of "carbohydrates," the latter to the decomposition of "proteids" and "fats." The end-products of each process were discussed. The causal factors in the production of gastric gas were considered under the following heads:—(1) Air swallowing; (2) chemical gastric respiration; (3) mechanical gastric respiration; (4) inorganic production of CO_2; (5) organic production of CO_2 and associated gases; and (6) spasm of cardia or pressure from without. The treatment of the various causes—including "lavage," diet, rectal feeding, and drugs—was referred to, and a plea was made for the more careful investigation of the causes of "flatulency."—The PRESIDENT took exception to the distinction drawn between fermentation and putrefaction. He looked on putrefaction as a mere accident of decomposition; it was simply fermentation *plus* smell. He was not hopeful of the possibilities of intestinal antiseptic treatment, as none of the things used had come up to expectation.—Dr. M. F. COX said that it was a rare thing for an amount of air capable of causing trouble to get into the stomach by swallowing. He thought the troubles must be looked for within. They had such cases where *mental* trouble or sudden shock had led to gas being formed by a process which was probably neither fermentation nor putrefaction, and in which a great amount of misery and depression was relieved by the expulsion of gas. In such cases he thought the subjective sensations were as much to be accounted for by the depression associated with mental causes as by poisoning of the blood by the by-products of digestion, or the uneliminated products of liver digestion.—Sir JOHN W. MOORE said that people with bad teeth who could not masticate their food swallowed with it very considerable quantities of air. They were familiar also with the connexion between cardiac and vascular lesions and gas in the stomach. It was exceedingly hard to disinfect either the stomach or intestines, but symptoms could often be relieved by attention to the toilet of the mouth.—Mr. CAHILL, in reply, said that the distinction drawn between "fermentation" and "putrefaction" was only for clinical use, seeing that the processes exhibited no absolute line of demarcation. The stress laid on air swallowing by Sir John Moore was in agreement with the observations of himself. An illustrative case of inflammable gas (CH_4) was quoted, a parallel to that noted by the President from the work of Sir Henry Marsh.

Dr. A. R. PARSONS read notes on a fatal case of Port-wine Coloured Urine (Hæmatoporphyrinuria). The patient came under his care early in June suffering from diffuse abdominal pain, vomiting, and constipation. The urine, on standing, become of a deep port-wine colour (specimen exhibited). It contained neither albumin nor blood. Neither trional nor sulphonal had been administered at this time. After ten days the patient improved and went away for a change. The symptoms, however, recurred and she was admitted to hospital towards the end of June. Abdominal pain was present Sleeplessness was pronounced, and she was given on four consecutive nights 15 grains of trional. The urine was of a similar colour to that passed early in her illness Towards the end of the first week after admittance she complained of severe pain in her feet, and on July 7th her arms were almost powerless and she was so ill and feeble that she could barely move in bed. On July 10th the rectal sphincter was relaxed and she commenced to pass fæces under her. A few days later swallowing became difficult and death took place in a little over two weeks after her admission to hospital and in less than seven weeks from the onset of her symptoms. Specimens of the urine passed shortly after her admission to hospital and a day or two before her death were exhibited. They were of a rich port-wine colour and, though nearly three years old, were acid in reaction and showed no evidence of decomposition. Though hæmatoporphyrin was probably present, the red colour was not due to this substance, and it was considered that the term hæmatoporphyrinuria applied to urine of this class was misleading.—The paper was discussed by the PRESIDENT and Dr. EUSTACE.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 2nd, Dr. W. H. Cheetham being in the chair.—Dr. T. Churton read a paper on Some Recent Compensation for Accident Cases. He said that in the examination of such cases six questions occur: (1) Does any lesion really exist, and, if so, where? (2) What is its nature? (3) Was it caused, either wholly or partly, by the alleged injury? (4) Was the injury accidental? (5) Will recovery take place? (6) and, if so, in how long? Upon (1) some suggestions were made concerning the investigation of symptoms. Upon (2) it was held that in a disputed case each of the medical witnesses should be required to state in writing the reasons for his opinion as to (*a*) the exact *site* of the lesion which is causing the symptoms; (*b*) its *nature*, considered as a distinct and separate problem; (*c*) its complete *causation*, with an estimate of the share taken therein by the injury, either directly or by its effects, acting in their turn as causes. If, for example, one man asserts that in some defined part of the nervous system there is a chronic inflammation—a pericellular or perineuronic lesion—of traumatic origin, and another maintains that there is no inflammation, but only (so-called) functional disorder, intracellular, and a metabolic hurrying or slowing, or a biochemical change—or, it may be, that there is no lesion of any kind, they should give their reasons in such a form that they could be submitted to a selected neurologist of judicial position and rank. And the same with respect to any other lesion, medical or surgical. Upon (3) a distinction was drawn between causes which were essential, determining, and contributory. And it was argued that if in a mass of interdependent organs like the body, a lesion produced by mechanical or other force gave rise to a succession [illegible] causes, the injury must be held [illegible] It appeared to have been maintained by at least one insurance office that the effects of an "accident" must be immediate, direct, unaided, almost instantaneous, and although they may not be instantly recognisable, must b[illegible] occurred at the time of the [illegible] and were not introduced after it. The insurer's view is that a true accident, however small, is the link in the chain of causation against which he wishes to insure. Other causes he may avoid or remove or o[illegible] by definition unavoidable. 4[illegible] be used sometimes to mean the *force applied*—as in the case of death from pneumonia occurring six days after a fall upon wet ground, in which the question before the Court of Appeal was whether death was due to the accident, meaning the shock produced by the (admittedly accidental) fall—and sometimes to mean the mode or the circumstances in which the force was applied, as in the cases of anthrax in a wool-sorter, heat-stroke in a fireman on a liner, and lead poisoning in a plumber, in which the question was whether the bacillus, the chemical, and the thermal force, acknowledged to be the cause of death in the respective cases, was an accident in the sense of having been acquired or *applied accidentally.* Dr. Churton doubted whether any condition or event which might be expected to occur in, and as a part of, the ordinary day's work, anything foreseen and certain to happen often or even occasionally, could properly be called an accident. Special terms and agreements should be made for hazardous employments.—Dr. Alexander D. Sharp read a paper on Modern Methods of Examining the Larynx, Trachea, Bronchi, and Œsophagus. Brüning's bronchoscope, together [illegible] of the larynx, trachea, and bronchi. It was pointed out that unnecessarily strong solutions of cocaine were generally recommended and that a perfect anæsthesia could be obtained by using a 5 per cent. spray for the pharynx, 10 per cent. application for the posterior surface of the epiglottis, and from 10 to 15 per cent. for the trachea and bronchi. Cases of temporary aphonia following bronchoscopy were attributed to faulty anæsthesia and indifferent manipulation. In order to get an extensive view within the trachea, the distal end of the bronchoscope must be controlled so as to keep it in the centre of, and parallel with, the trachea, as there was a tendency for the end of the tube to [illegible] be exercised [illegible] introduced to [illegible] against the [illegible].—Dr. E. F. Trevelyan showed a woman, aged 25 years, with Double Arm Paralysis of Plexus Type after Influenza. Recovery had already lar[illegible] was improv[illegible] Fractured [illegible] down of th[illegible] rapid consolidation occurred under antisyphilitic treatment. —Cases and specimens were also shown by Mr. J. Stewart, Mr. A. E. A. Pearson, Mr. B. G. A. Moynihan, Dr. A. Bronner, Mr. J. F. Dobson, Mr. W. O. Morton, Dr. A. G. Barrs, and Mr. E. Solly.

UNITED SERVICES MEDICAL SOCIETY.—A meeting of this society was held on March 10th, Colonel D. [illegible]l Army Medical College, [illegible]W. W. O. Beveridge, [illegible] Some Recent Methods of [illegible] the process of Letts and [illegible]olved oxygen in sewage [illegible]f apparatus for observing [illegible]n by polluted waters, [illegible]elf for extracting the total gases in sewage. Major Beveridge prefaced his demonstration by a few remarks on the importance of the fact that as an immediate and essential result of the mixing of a sewage effluent with a tidal water the more or less complete absorption of the oxygen dissolved in the latter takes place. It was, therefore, necessary in the case of any sewage to know its purity or the degree of putrescible matter present by ascertaining, on the one hand, the amount of dissolved oxygen present in the sewage, and, on the other, by estimating the amount of oxygen it was able to take up, which might be termed its "oxygen appetite." Taking a tidal water composed of equal parts of salt and fresh water, the lecturer pointed out that whereas saturation might be represented by a volume of 6·20 cubic centimetres of oxygen per litre, the lowest limit to which it was safe to de-oxygenate such a water was about 3·4 cubic centimetres per litre. Below this point there would be danger of destruction to fish. Proceeding Major Beveridge demonstrated the process of Letts and Blake for estimating the amount of oxygen dissolved in an effluent. This process depended on the fact that oxygen dissolved in water was absorbed by a ferrous salt plus an alkali (i.e., ferrous hydrate). The amount of oxygen dissolved in an effluent [illegible] adding a definite quantity of [illegible] excess of ammonia. The [illegible]he ferrous hydrate, and the amount of hydrate so attacked was calculated by the amount left unaffected. The latter was estimated by titration against a standard solution of an oxidising agent—e.g., bichromate of potassium. It was advised that the suspended matters should be removed and estimated separately, as small variations in these might affect the result. Major Beveridge then demonstrated Adeney's process for the estimation of the amount of oxygen absorbed by a sewage, and the rate of its absorption, in which the partial vacuum caused by the absorption of oxygen in one flask was measured by the rise of fluid produced in another flask connected by a glass tube. Finally a method was shown devised by Major Beveridge for the extraction of all the gases in a sewage by a process of boiling under reduced pressure, the gases so extracted being collected and afterwards analysed in a specially modified Orsat gas apparatus.—Mr. N. Bishop Harman demonstrated a piece of apparatus, giving a diaphragm test for binocular vision, founded on the fact that when a man with normal vision in both eyes looks through a hole in a diaphragm held at some little distance from him the eyes look crosswise through the opening, the left half of the field being viewed by the right eye, and the right half by the left eye. The instrument consists of a flat ruler 44 centimetres long with a rack at one end to hold the test-object cards and a screen at 11 centimetres from the rack in which an aperture, either round or square, of an area of 1·7 square centimetres is cut. The test objects are of different natures, written [illegible] patterns for children and un[illegible]es of the test are to determine [illegible]he vision in the two eyes, to [illegible]ce, or any defect of binocular vision, to exercise the vision in squinting eyes, to detect malingerers feigning monocular blindness, and to demonstrate certain physiological phenomena connected with the perception and suppression of images. The method of working was then demonstrated by Mr. Bishop Harman, and the meeting closed with a vote of thanks to him for his demonstration.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on April 2nd, Mr. Edward Sergeant, the President, being in the chair.—A discussion was opened by Dr. John Robertson upon the Prevention of Tuberculosis among Cattle. He pointed out in the first instance that stock-owners sustained a very considerable loss owing to the general wasting which occurred in cattle from the disease, from the inability to guarantee to the butcher freedom from tuberculous disease, and from the shortening of the milking period of good milkers by probably 50 per cent. The principal methods which had been proposed for clearing herds of tuberculosis were those of Professor Bang, Professor Ostertag, and of von Behring. The essentials of Bang's method were: (1) the testing of all animals with tuberculin; (2) the complete and continuous separation of the reactors from the non-reactors, with the necessary d[illegible] all calves on tubercle-free mil[illegible] all non-reacting animals; (5) [illegible] the most profitable time; and (6) the slaughter of all animals with udder tu[illegible] placed on con[illegible] investigation, [illegible] its success upo[illegible] to the tubercle bacillus by the injection of attenuated cultures. Dr. Robertson considered that Bang's method was the only reasonable one for general adoption. Every opportunity must be given for the establishment of an efficient public health veterinary staff for the examination of dairy cattle, and cowsheds must be brought up to a reasonable standard, for to attempt to reduce tuberculosis in insanitary cowsheds would be a mischievous waste of money. It had been ascertained in Birmingham as the result of the operation of the model milk clauses that 14 per cent. of the churns of milk coming into the town contained tuberculous milk so that some protective measures were necessary. A scheme on the lines of that suggested by Bang had been adopted and was being carried out in cowsheds situated within a radius of ten miles from Birmingham. A certificate was issued quarterly to those farmers who kept their herds free from tuberculosis and a list of such farmers was printed and supplied to any inhabitant of Birmingham who desired to have one.—Sir Shirley Murphy said that it was clearly to the interest of the dairyman to eliminate from his herd tuberculous cattle. He asked whether cowsheds were really necessary and thought that if cows were left to live in the open as nature intended they might predict that tuberculosis would be very much lessened. He insisted upon the necessity for branding every cow found to be tuberculous; otherwise an animal which had been tested and found to react could be disposed of and traced only with the greatest difficulty.—Dr. J. Niven regarded as an essential part of the programme the alteration of existing cowsheds, but it was not easy to see how that could be brought about, for the sanitary authorities were so largely composed of those interested. All milk dealers he thought should be required to provide themselves with a certificate stating that their cowsheds were good. He doubted if farmers could be prevailed upon to keep their cattle in the open, for more food would be required.—Dr. Chalmers urged that farmers should protect themselves against loss by insurance.—Dr. F. E. Fremantle, speaking from the point of view of the producer, feared that the interests of the town and country were divergent, and pointed out that if the cost of production were increased and the price of milk raised the result would probably be an increased consumption of condensed milk among the poorer classes. He was not sanguine of poor people demanding a pure milk-supply at an enhanced cost.—The President deplored the fact that in many country districts there was practically no inspection of cowsheds at all. He cited one district in which modified regulations were adopted, but the chairman of the sanitary authority frankly asserted that they were of such a character that they need not be carried out.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 1st, Mr. R. F. Jowers, the President, being in the chair.—Sir Malcolm Morris gave an address upon Eczema, its Nature and Treatment. He said that he would consider first the eczema of the young child, then that of puberty, then that of adult life, and if time allowed that of old age. The following is an abstract of his remarks: If a child six months old is brought with weeping eczema of the face and scalp use hot boric fomentations to get off the crusts; do not allow soap and water. Then powder with emol keleet, which is genuine fuller's earth, adding perhaps zinc oleate and boric acid, or calamine lotion. In acute eczema at all ages do not use ointments until the discharge stage is over. When the discharge has stopped use a zinc or zinc and ichthyol cream. Internally small doses of mercury are beneficial. Vaccination rarely "takes" during an acute eczema, and should be postponed until the eczema is entirely cured, or it may cause a fresh attack. Powdered oleate of zinc rubbed in is the best preventive of a relapse. If the child is seen early with only a little scurfiness of the face or a crust on the scalp, boric acid ointment or oil should be ordered, and very little washing allowed. If a child aged 14 years be brought with eczema (*a*) inquire if there have been attacks in infancy, if so, similar treatment is applicable; (*b*) examine the palms of the hands and soles of the feet for xeroderma, dry smooth palms, and keratosis pilaris of the extensor surfaces. In this case prolonged baths, the use of soap and glycerine, are indicated; the sweat glands do not act properly. (*c*) If there are patches on the arms or legs alternating with asthma or other nervous phenomena the eczema is of the neurotic type which goes on all through life. It is very pruriginous, very excitable. Tar should be used to allay irritation, arsenic internally, or a visit to the arsenical springs of La Bourboule or Levico may do great good. In adults if there are symmetrical scaly patches, examine the head for scurf, eczema seborrhœicum, but this must be distinguished from pityriasis rosea, which begins with a circular patch on the trunk or limbs, looking like ringworm; this is followed by a general eruption which does not spread below the knees or elbows. For seborrhœic eczema use soap and water followed by mild sulphur ointment, and for the scurfy scalp resorcin in vaselin. Weak red oxide of mercury ointment or one of carbolic and menthol or lotions of tar may also be useful. Sea-bathing and wetting the head every day make eczema worse. At the change of life the most prevalent trouble is acne rosacea, eczema of the face, arms, and vulva. For this aperients and tonics judiciously combined, as in the mist. ferri sulph. c. quin., are most valuable; ichthyol internally. Externally soothing remedies, such as calamine lotion, tinted ointments of boracic, ichthyol, or weak sulphur or resorcin.—The paper was discussed by the President, Dr. Walter Broadbent, and Dr. C. F. Bailey, and a hearty vote of thanks was passed to Sir Malcolm Morris.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on April 7th, Mr. W. Coates, the President, being in the chair.—Mr. J. E. Platt related a case in which he had excised a considerable portion of the Radial Artery in a case of Suppurative Arteritis leading to Secondary Hæmorrhage. The patient, a boy, aged four years, was admitted to the Royal Infirmary with a very extensive deep cellulitis of the forearm. Incisions were made on the day of admission, but two days later hæmorrhage occurred and the brachial artery was tied. Eight days afterwards hæmorrhage again occurred and it was therefore decided to open up the wounds and to search for the bleeding vessel. The upper part of the radial artery was found to be in a sloughy condition and two inches of the vessel were removed, the divided ends being ligatured with catgut. The patient, although greatly exhausted at the time of operation, afterwards recovered well and the functional use of the arm was perfect. Mr. Platt also referred to a similar case which he brought before the society 15 years previously in which he had removed four inches of a sloughing brachial artery with complete success, the patient making a perfect recovery. He pointed out that this method of treatment was merely an extension of the ordinary rule for the treatment of secondary hæmorrhage —viz., dealing with the vessel at the site of the bleeding—and that in the cases mentioned it was the only alternative to amputation of the limb. The method was more likely to be of use in the case of the arm than of the leg, owing to the freer collateral circulation.—Dr. W. J. S. Bythell read a paper, illustrated by lantern slides, upon the Radiography of Renal and Ureteral Calculi. The paper dealt chiefly with the differential diagnosis between shadows due to calculi and those caused by other objects, such as calcareous glands. Examples were also given to show the advances made in x ray work, whereby it is possible to distinguish the size and structure of the kidney itself, and thus to a large extent make out the pathological condition of that organ. Such cases included several of pyonephrosis and tuberculous kidney.—Dr. George Ashton made a short communication on the Hypodermic Injection of Atropine and Strychnine in Chronic Alcoholism. He had tried this treatment in three cases, all confirmed alcoholics. The solution used was a mixture of liquor atropinæ sulphatis and liquor strychninæ hydrochloridi in the proportions of 1–4. Five minims of this solution were injected twice daily into the outer surface of the calf of the leg. The first patient had 70 injections, the second had 34 injections, and the third 30 injections. The general health was considerably improved, but the underlying disease—the craving for alcohol—was unaffected. His patients strongly objected to the repeated pain of the injections and to the dryness of the mouth caused by the atropine. Dr. Ashton had reluctantly come to the conclusion that the treatment was absolutely useless.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 7th, Dr. P. Boobbyer, the President, being in the chair.—Mr. A. M. Webber read a paper on Ante-partum Hæmorrhage. In this he classified the causes under injuries of the genital tract, disease of the cervix or vagina, and separation of the placenta. The last cause of hæmorrhage was again subdivided into accidental or unavoidable according to the implantation of the placenta. All these causes were illustrated by cases, Mr. Webber carefully reviewing the treatment of placenta prævia and urging the value of antiseptic douching in addition to the usual precautions against maternal sepsis. The paper was discussed by the President, Dr. J. H. Thompson, Mr. T. Geraty, Dr. W. Tibbles, Dr. A. J. Sharp, and Mr. W. B. Blandy, and Mr. Webber replied.—Dr. C. H. Cattle showed a woman, aged 29 years, the subject of Diffuse Scleroderma, a sequela of influenza four years previously. The whole of the upper half of the trunk, with the exception of the hands and backs of the elbows, was affected, as well as the head and neck.—Dr. F. H. Jacob showed the Characteristic Spectrum of Methæmoglobinæmia occurring in an elderly patient as the result of taking phenacetin to excess; and also a skiagram of the Pelvis and Hip-joints in an obscure case of Double Abnormality of the Cervix Femoris.—Mr. Webber showed a Heart with Patent Septum Ventriculorum fatal at the age of eight years in a boy. The kidneys from this case were also shown and were in a state of advanced pyelonephritis as the result of congenital stenosis of the meatus urinarius.

Reviews and Notices of Books.

Oxford Medical Publications: Diseases of the Spinal Cord. By R. T. WILLIAMSON, M.D. Lond., F.R.C.P. Lond., Assistant Physician, Royal Infirmary, and Lecturer in Medicine, Victoria University, Manchester. With 183 illustrations and 7 plates. London: Henry Frowde and Hodder and Stoughton. 1908. Pp. 432. Price 15*s.* net.

IN a subject so complex as neurology, to which additions are almost constantly being made from the results of physiological, pathological, and clinical research, there is always room for a book of reference in which the subject, or some branch of it, is considered in a manner more catholic and exhaustive than is necessary for a student's text-book and in which the results of recent work can be set forth and discussed. Dr. Williamson has devoted special attention to diseases of the spinal cord, and in the book before us, although he modestly disclaims any intention of furnishing an exhaustive account of spinal diseases, he has supplied in a manner wholly admirable a very thorough and suggestive consideration of them. He devotes special attention to the physiology and pathology of these conditions and these aspects of his subject are very well and liberally illustrated.

The structure of the spinal cord is described in some detail, and an interesting account is given of the blood-supply of the cord and of the relation of spinal diseases to the distribution of the blood-vessels. Some useful diagrams are given showing the parts of the cord supplied by the various arteries. The general pathological histology of the spinal diseases is next dealt with, and the various forms of degeneration, chromatolysis, and other changes occurring in the nerve elements are described clearly and fully, while the conditions under which they occur are enumerated. The tracts of ascending and descending degeneration are carefully described and figured, and their origin, course, and functions are discussed so far as these are known. Under this heading some of the tracts which are less generally known are included, such as v. Monakow's, Helweg's, and Hoche's bundles, Flechsig's oval field, and the triangle of Gombault and Phillippe. The functions of the spinal cord are considered at some length, and a careful and critical summary is given of the various views at present put forward in regard to the vexed questions of the paths of conduction of the different forms of afferent impressions and of the crossing of sensory fibres. The views of Edinger, Gowers, Sherrington, and Head and Thompson are given. The reflex, trophic, vaso-motor, and visceral functions of the cord are similarly dealt with.

A useful section is devoted to a general consideration of the symptoms of diseases of the spinal cord. These are classified into motor, reflex, sensory, and trophic symptoms, paralysis of bladder and rectum, and ocular symptoms. Each is described in detail, the methods of eliciting it are set forth, its indications and the conditions in which it occurs are then enumerated. The author incorporates not a few original observations in this section. The account given of the reflexes may be mentioned as of special interest. The tendo Achillis jerk is stated to disappear sometimes before the knee-jerk in conditions in which the latter is usually lost—e.g., in tabes, general paralysis of the insane, peripheral neuritis, diabetes mellitus, and in alcoholic heart failure. The vibrating sensation as tested by a tuning-fork, of which the foot is placed over subcutaneous bony prominences, is also described at some length, and is regarded as a delicate test for detecting slight impairment of sensation. Electrical examination and the uses of lumbar puncture are considered in a separate section. In relation to the reaction of degeneration, Dr. Williamson lays stress upon the sluggish and prolonged contraction of degenerated muscle as contrasted with the sharp and short contraction in the normal state. The diagnosis and localisation of diseases of the spinal cord are carefully and clearly discussed. Useful tables of motor localisation and sensory distribution are given for purposes of anatomical or topographical diagnosis. General rules are also given to assist in forming the pathological diagnosis. The effects of unilateral and complete transverse lesions are described, and the characters of Brown-Séquard's paralysis are set forth. The question of the state of the reflexes in complete transverse lesions is critically considered, and the general conclusion arrived at is that while the condition of absent reflexes and flaccid paralysis described by Bastian is the rule there are exceptions.

The general classification adopted by Dr. Williamson is into four clinical groups—viz., diseases in which the prominent symptoms are those of a transverse lesion of the cord, of atrophic paralysis, of spastic paralysis and of ataxia, and a section is devoted to each of these. The classification is a convenient one and saves a considerable amount of repetition. In the first of these groups the various conditions to which the term myelitis is applied are considered and differentiated from one another. Compression myelitis is described in a most thorough and careful manner, and great stress is laid upon the necessity for careful examination of the spine in all cases of lateral sclerosis of obscure nature. In this same section the subjects of spinal tumours and spinal cysts are discussed in a most thorough manner, and the account is one of the best with which we are acquainted. The description of the symptoms of lesions of the cauda equina and conus terminalis is also worthy of special mention, and the diagnosis of these conditions is carefully discussed.

The next section deals with diseases causing atrophic paralysis and includes the various forms of acute, subacute, and chronic poliomyelitis, progressive muscular atrophy, amyotrophic lateral sclerosis, and syringomyelia. In connexion with the pathology of progressive muscular atrophy, Dr. Williamson records a case in which the symptoms were typical of the Aran-Duchenne type, and in which death occurred 22 years after the onset of the disease. Neither on clinical examination nor after careful microscopical examination after death was there any evidence of amyotrophic lateral sclerosis, and therefore he regards the two conditions as separate diseases or distinct forms of one affection, in opposition to the contention of some authorities that there is no distinction between these conditions and that they own a common pathological basis. At the same time he admits that the clinical diagnosis of progressive muscular atrophy cannot be an absolute one since features of amyotrophic lateral sclerosis may supervene at a later date, and further, that cases apparently typical of progressive the employment of massage and of electricity. Hydrotherapy is also most efficacious while drugs he holds should be used only as a last resource.

There is, as we have said, a good deal of repetition in this work, and it is unduly bulky, but Dr. Bandler has succeeded in carrying out his intention and the student will find in the book a very fair representation of the most approved and modern methods of the medical treatment of gynæcological cases. The illustrations are not of any particular value. There is a fair index.

Précis de Stomatologie. By J. REDIER Vol. I. Paris: F. R. de Rudeval. 1909. Pp. 542. Illustrated. Price 5 francs.

THE ground covered in this volume includes the development and anatomy of the teeth, abnormalities of the teeth, the complications of dentition, and caries of the teeth. On reading the book we cannot help feeling that if an international nomenclature of dental diseases existed a large amount of misunderstanding would be avoided. Take, for example, the use of the term erosion; in this country and in America the term is limited to a progressive destruction of the tooth tissue due in many cases to abrasive agents; in France the term is used to describe defects of the teeth arising from constitutional causes and usually known in this country as hypoplasia of the teeth—in other words, two totally dissimilar lesions are described by a similar term. Throughout the book the author has adopted with success plain line diagrams instead of more elaborate illustrations in describing models of the teeth and appliances; he has only had recourse to more detailed drawings in describing histological sections, and the technique of these is excellent. The author discusses very fully the etiology of caries under the headings of extrinsic and intrinsic causes, but he adds little to what is already known. He places considerable importance on the influence of the race in relation to the incidence of caries and strives to show that in France it bears a relationship to the distribution of the early races. He seems, however, to lose sight of the fact that races differ considerably in their food and habits, and in that difference may possibly be found an explanation of the figures which he quotes. The book is, we consider, well worthy of perusal and does credit to its author.

LIBRARY TABLE.

An Atlas of Skiagrams Illustrating the Development of the Teeth, with Explanatory Text. By JOHNSON SYMINGTON and J. C. RANKIN. London: Longmans, Green, and Co. 1908. Price 10*s.* 6*d.* net.—This series of skiagrams is a systematic attempt to examine by means of the *x* rays the position and relation of the teeth at different stages of development. The skiagrams have been taken from 18 children, whose ages at death ranged from nothing (i.e., who died at birth) to 16 years, and from one adult, and the series forms a fairly complete history of the calcification of each tooth. The method adopted in investigating the specimens was to divide the head on the median plane and, as a rule, remove all the soft tissues, except the muco-periosteum of the jaws; the specimen was then placed on a photographic plate with the posterior part of the head raised about 30 degrees above the horizontal plane. By these means the shadows of the teeth at the front part of the dental arch were to a great extent avoided. The authors have by these means produced a really excellent series of skiagrams, 23 in number; each specimen is accompanied by an explanation, and in addition five drawings are added showing the maxillary sinus at different ages. An examination of the plates brings to light one or two points of interest in connexion with the calcification of the teeth. In the first place, it appears quite clear that the first permanent mandibular molar commences to calcify at an earlier period than the corresponding upper teeth and that the only portion of these teeth calcified at birth is the anterior lateral cusp of the lower tooth. Development of the permanent incisors and canines would seem to commence at an earlier period than usually stated, for the authors could detect them in skiagrams from infants four and a half months old. Another point worthy of notice is that calcification of the third permanent molar does not commence until after the ninth year and that the growth of the upper tooth is in advance of the lower one. In considering how far the results shown in these skiagrams should be taken as authoritative it must be remembered that the dental arch in all the specimens was not normal; no history as to the cause of death is given; still further the amount of material investigated is far too small. By these remarks we do not wish in any way to disparage the excellent work the authors have done, and we only hope that they will carry their investigations further and place us in possession of absolutely trustworthy data on the development and calcification of the teeth.

Handbook for Attendants on the Insane. Published by the authority of the Medico-Psychological Association. London: Baillière, Tindall, and Cox. 1908. Fifth edition. Pp. 390. Price 2*s.* 6*d.* net.—This is a new and revised edition of a widely known handbook. It has been found, according to the preface, that in certain places the training already given has developed a strong demand for some advanced teaching. The scope of the book has therefore been enlarged and we cannot but feel that it has been over enlarged. It appears to us that much that is now included in the handbook tends to make it much more than a handbook for attendants, and indeed has caused it to become a somewhat inadequate textbook. If there is, in fact, a demand for advanced teaching we think it should be met by recommending the perusal of some of the excellent manuals of morbid psychology with which the libraries of asylums are supplied, rather than by attempting to pad out a book for beginners with matter which, for its proper explanation, requires considerably more space than can, in the circumstances, be devoted to it. Many of the descriptions of symptoms given are good and the advice as to the general care and nursing of the insane is excellent, but the book, as a whole, requires more careful editing than it has received.

THE CHURCH MISSIONARY SOCIETY.—One of the special features of the great missionary exhibition, entitled "Africa and the East," which will be held at the Royal Agricultural Hall, from June 8th to July 3rd, under the auspices of the Church Missionary Society, will be a special exhibit of outfit suitable for missionaries and travellers which will be shown in a special outfit section. This section is being arranged under the auspices of Livingstone College, which is specially devoted to the study of all questions affecting the health of missionaries, and in the years 1900 and 1901 organised an important outfit exhibition at the St. Martin's Town Hall and Westminster Town Hall respectively. It is hoped on the present occasion to demonstrate the most up-to-date methods of modern outfitting for travellers in the tropics, and the leading firms who provide articles for missionary equipment are being invited to take part in this section. One of the special features of this section will be an exhibition of the various methods of protection from mosquitoes and other insects, which, it is well known, play an important part in the spread of many tropical diseases. It is often difficult to impress upon people's minds the great importance of the outfitting problem in its relation to health, and this section will, it is believed, prove of interest to many who would not ordinarily be attracted by a missionary exhibition. The organiser of this section, Dr. C. F. Harford, Principal of Livingstone College, will be pleased to communicate with any who desire particulars concerning it if they will write to him at Livingstone College, Leyton, E.

THE LANCET.

LONDON: SATURDAY, APRIL 17, 1909.

The Children Act.

A LITTLE more than a year ago we commented briefly in a leading article[1] on the general scope and aims of the Children Bill, and we then expressed the hope that so important a measure might be raised above the storms of party strife and secure speedy enactment. The instinct of parental care is so fundamental in almost all the higher forms of animal life that it might have been expected that in man, owing to the development of the altruistic sentiment, the general care of infant life and the adequate nurture and education of children would have been among the earliest matters to receive attention in a progressive civilisation. It is hardly to the credit of our sociological evolution that the collective study of child life is of such recent development, while the widespread disregard which has been shown to exist in regard to the most elementary principles of hygiene as applied to infants and children, and the wholesale loss of infant life which the mortality tables show as a result, are among the greatest stains upon our boasted progress. It is, however, gratifying to find that the general awakening to the importance of these questions in relation to the national weal has resulted in the welcome accorded by all sections of Parliament to the Bill which has now taken its place upon the Statute Book. Its provisions came into operation on April 1st, and the present is therefore an opportune moment to consider, especially in regard to their medical and hygienic aspects, some of the more important of the sections of this Act, which has not inaptly been called the Children's Charter, inasmuch as it gives greatly enlarged powers to certain authorities with mechanisms for enforcing them, and is designed with a view to ameliorate in every way possible the conditions of life in infancy and childhood.

Of the six parts into which the Act is divided the first two, those dealing with Infant Life Protection and with the Prevention of Cruelty to Children and Young Persons, are those with which we are more especially concerned. In regard to the important subject of Infant Life Protection the Act marks an advance upon the Act of that name passed in 1897, in that it renders subject to inspection *every* infant who is placed out to nurse for more than 48 hours for fee or reward, whereas the Act of 1897 only dealt with foster parents who received more than one infant under the age of five years, the age limit being also raised in the present Act to seven years. An important provision of this section is that every infant under that age who is put out to nurse for more than 48 hours must be notified by those in charge to the local authority, which is defined for the county of London as the County Council, for the City of London as the Common Council, and elsewhere as the guardians of the Poor-law Union. The foster parents must further notify these local authorities within 48 hours of any change of residence, and also of death or removal of the infant, and in the latter case must also state the name and address of the person to whom the infant has been transferred. They must also inform the coroner within 24 hours in the case of death of an infant under their care. They are not permitted to insure the life of any such child, and insurance companies are forbidden to accept any proposal for such insurance. The local authorities have the power to fix the number of infants which may be kept to nurse in any one building, and they are required to appoint one or more persons of either sex to act as "infant protection visitors," whose duties include the visiting of infants registered with the local authorities, in order to satisfy themselves as to the proper nursing and maintenance of the infants or to give advice or directions in regard to these matters. They may obtain search warrants from a justice if refused admission to any premises and can order the removal of an infant if they find the premises are overcrowded, dangerous, or insanitary, or if they find evidence of negligence, ignorance, inebriety, immorality, criminal conduct, or other similar cause.

The second part of the Act, that dealing with the prevention of cruelty to children and young persons, contains some provisions important to medical men. Among the most important is that which provides penalties for any person over the age of 16 years who has the custody, charge, or care of any child, and who either directly or indirectly assaults, illtreats, neglects, or exposes such a child in a manner to produce unnecessary suffering or injury to his health. The penalties on conviction on indictment may be a fine not exceeding £100 or imprisonment with or without hard labour for a period not exceeding two years, unless it can be shown that the person convicted was financially interested in the death of the child, when the fine may be increased up to £200 and the term of imprisonment extended to five years' penal servitude. It is specifically stated that failure to provide adequate food, clothing, medical aid, or lodging is to be deemed neglect in a manner liable to cause injury to health if the person having care of the child, being unable to provide these necessaries, fails to take steps to obtain appropriate relief from the proper authorities. A conviction under this section of the Act may be made even though actual suffering or injury to health was obviated by the action of another person. Dr. J. NIVEN, the medical officer of health of Manchester, in a report upon the Act prepared for the Infant Life Protection Committee of that city, points out the importance of the section which requires the persons, who are legally liable to maintain any child, to provide adequate medical aid, and has submitted for legal opinion the question as to whether this includes an obligation to carry out the instructions given by a medical practitioner. The reply received was that the carrying out of reasonable instructions (within the ability of the parent or guardian) would be included, in other words, a guardian of a child can not avoid his responsibility by consulting a medical man and then omitting to do as he is advised. Dr. NIVEN points out further that this section should afford great assistance to the education authorities since it will enable them to secure that parents shall provide medical aid in those cases in which the medical inspectors or school nurses have advised that it is necessary. But it is obvious that the effects of this section, if effectively carried out, will be very widespread, for it must include not only every case of neglect, whether through ignorance or as a result of wilful and deliberate cruelty or callous indifference, but also those in which failure to secure medical aid is the result of religious belief or sectarian tenets.

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[1] THE LANCET, Feb. 15th, 1908, p. 507.

This section of the Act will also prove to be of value in regard to the spread of infectious diseases. Among the poor it is said to be not uncommon where one child is affected by a disease such as measles or whooping-cough to allow other children to sleep with the infected child and to neglect all precautions to prevent spread, on the misguided idea that to suffer from the disease is inevitable, and that it is as well "to get it over." Among the very poor segregation of the sufferer must be almost impossible in the home, but deliberate exposure of a child to the risk of infection might well be regarded as an offence under this section. It is also perhaps not too much to hope that eventually the Act may assist in lessening the terrible incidence of rickets upon the children of our large towns, since the health visitors, if such be appointed, may give instruction in regard to proper feeding or compel medical treatment where the disease is established. Other matters receiving special mention in this part of the Act are those of "overlaying" and burning or scalding. In the case of an infant under three years of age being suffocated while in bed with a person over the age of 16 years, who was at the time of going to bed under the influence of drink, this shall be deemed "neglect in a manner likely to cause injury" and be punishable accordingly. If a child under the age of seven years be left in a room containing an open fire-grate not sufficiently protected, and as a consequence is burned or scalded, the person responsible is liable to a fine of £10. In this connexion, although no mention is made of the danger of inflammable flannelette, it is to be hoped that in cases of burning from this cause a similar punishment will be enforced. A special part of the Act is devoted to the question of juvenile smoking and its prevention. This during the discussion of the Bill was the cause of no little amusement. It is of subsidiary importance but is one with which we cannot but agree. In the concluding part of the Act under the heading "General and Miscellaneous" it becomes an offence, punishable with a fine not exceeding £3, to give to a child under five years of age any intoxicating liquor, except upon the order of a duly qualified medical practitioner, or in case of sickness, or apprehended sickness, or for other urgent cause. A further provision is that a local education authority may enforce the cleansing of verminous children. The remaining sections of the Act deal with reformatory and industrial schools and juvenile offenders, and are outside the scope of our present comments.

We cordially welcome the measures for the enforced care of children and infants as regards their physical and moral health and well-being, for no one sees more clearly the results upon the young of our population of ignorance and neglect than the medical practitioner, who too often finds his best efforts stultified by wanton disregard or careless performance of his instructions. In the operation of some of its measures the Act must of necessity be experimental, and it is not easy to foresee in what manner and with what results some of its provisions will be administered, though it is to be hoped that the powers conferred upon the various authorities will be exercised with tact and discretion, but without laxity, and that where experience proves that modifications are necessary these may be made as speedily and effectively as possible. The Act marks an advance in the history of our civilisation and one that future generations may regard as one of the greatest advances, since its aims are purely humanitarian and its objects the betterment of the conditions of life of our population at the most vulnerable periods.

An Ambulance Service for the Metropolis.

WE regret to see that the Home Secretary, while acknowledging the ability and value of the recent report of the Committee appointed by his department "to inquire as to the provision made for dealing with cases of accident and sudden illness occurring within the streets and public places of the metropolis," holds out no hope of any immediate action on the lines recommended. The Committee was asked to report whether any, and if so what, improvements in ambulance provision are necessary or desirable in the metropolis, and was invited to say how reforms could be best effected with due regard to efficiency and economy. Its reply was the document, a very full abstract of which appeared in THE LANCET of April 3rd, which, while it showed over and over again that a properly organised ambulance service is required in the metropolis, left the Home Office choice of two directions in which to look for a proper authority over such a service. The majority—viz., two out of three of the Commissioners, the Earl of STAMFORD and Sir KENELM DIGBY—wished to constitute the Metropolitan Asylums Board, in coöperation with the Metropolitan Police, the authority over the new ambulance service; the Minority Report signed by Sir WILLIAM COLLINS upholds the claims of the London County Council. A choice of procedure is thus laid before those who make themselves responsible for future legislation, and this further is a little complicated by the undoubted fact that the report has gone outside the terms of reference and has taken into consideration the care not only of "cases occurring within streets and public places," but also of cases occurring on private premises. By including these last cases in the purview a sound argument results for making the Metropolitan Asylums Board the authority, for undoubtedly that Board might well take charge of such cases, receiving proper payment for services rendered. On this last point there ought to be no doubt, for it would be distinctly unfair to the public that firms, for example, where the business carried on makes a certain number of accidents an absolute certainty, should be able to obtain gratuitously the ministrations of a rate-supported organisation. In our view, however, these cases upon private premises did not come within the scope of reference of the Commissioners. When they occur they can be dealt with by medical men engaged in private practice in the ordinary manner, and if thought necessary by such medical men the ambulances of the Metropolitan Asylums Board can be *obtained on payment and the patients taken home or to hospitals as the case may be.* With the exclusion of these cases the particular fitness of the Metropolitan Asylums Board to act as an authority for a new ambulance service for the metropolis seems to us largely to disappear and the question resolves itself into one between the police and the London County Council.

Sir William Collins, in arguments which we have set out in our abstract of his memorandum added to the report, makes out a good case for the London County Council, and we are so far in accord with his view that we consider that the relieving of the police of duties so remote from their usual functions as the transportation of invalid and sick persons must commend itself to the framers of any legislation for many practical purposes. Moreover, we presume that the London County Council ambulance service would be worked by efficient and exactly trained attendants whose assistance in many cases might be more valuable than that usually afforded under the heading of "first-aid." On the other hand, we cannot fail to see that there is much to be said for the police undertaking the duty because it is, in the words of the report, "*the police who have the first responsibility for the safety of the patient on the happening of the casualty*," so that if the police do not have the responsibility throughout it must be divided somewhere with risks of friction or inefficiency. Omitting the Metropolitan Asylums Board from our consideration, we wonder whether it will be possible for the police and the London County Council to coöperate in some satisfactory manner, and it is in this direction that we should almost anticipate a working plan were it not a direction which the able Commissioners have not taken. To medical men, however, the great thing is action in some direction. Probably under any of the three authorities suggested, or under any of the *four* possible combinations of them, a sound scheme could be devised which would remove from the metropolis a reproach under which it now lies. We hope that temporary pressure in Mr. Gladstone's department will not result in any long shelving of a matter of vital interest to the public.

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The Pathology of Epilepsy.

The clinical phenomena in association with epilepsy are universally recognised, but the pathology of the disease has not yet been satisfactorily explained. There are no *gross* lesions to be found in the brain after death from epilepsy and the microscopical changes cannot be said to be characteristic. It has been assumed by some observers that injury to the neurons occurs or that there is some alteration in the chemical constitution of the grey matter; as a result sudden liberation of nerve energy in the grey matter of the cerebral cortex takes place without being excited by the normal stimulus. Sir William Gowers has suggested that the liberation of nervous energy involves the escape of some atoms of the nerve tissue which are at once replaced from the plasma adjacent to them under the mysterious nutritional influence of life. "The rearrangement is the same and yet not quite the same." It differs in just the degree and character to make the same release of nerve energy more easy; it is this recurring tendency he maintains that constitutes the disease. Regarded from this point of view epilepsy must practically be set down as a functional affection. In the Goulstonian lectures delivered before the Royal College of Physicians of London, which have been fully reported in our columns,[1] Dr. A. E. Russell brings forward some able arguments in attempting to show that the pathological condition which gives rise to epilepsy is anæmia of the brain. Others have suggested cerebral anæmia as the pathological factor in epilepsy, but in these lectures the full facts supporting this theory are fully and clearly set forth. Dr. Russell's remarks are characterised by lucidity and thoughtfulness and are worthy of close attention and study.

The title selected for the lectures was "Some Disorders of the Cerebral Circulation and their Clinical Manifestations" Dr. Russell first drew attention to syncopal attacks which may ensue when there is a diminution in the volume of blood passing through the brain. He pointed out that a sudden depression of the normal vaso-motor tone in the splanchnic area leads to a rapid accumulation of blood in the capacious vessels of that region; if only momentary in duration the result is merely the sudden sinking sensation experienced at the pit of the stomach, so common after any unexpected noise or fright. If of longer duration this preliminary sensation or aura is succeeded by a faint. He next proceeded to describe a type of attack in which vagal and vaso-motor symptoms are prominent and in which consciousness, though modified, is not of necessity lost. These cases exhibit obvious changes both in the cardiac and systemic systems, and vaso-dilatation in the splanchnic area is almost beyond dispute in many of these instances. Occasionally a fainting fit is preceded by definite subjective sensations or auræ, and the lecturer quoted Sir William Gowers, who has recorded cases in which repeated syncopal attacks passed into epilepsy. In some attacks of syncope there is marked cardiac and vascular instability with the development of a series of symptoms depending on these cardiac and vaso-motor changes; and many of these symptoms are identical with epileptic auræ, though more prolonged. The degree of consciousness preserved by the patients also varies; in some it is only modified, in others it may almost vanish, and in others complete unconsciousness may develop. The next step in Dr. Russell's arguments was the production of evidence to show the occurrence of cardiac arrest in idiopathic epilepsy. He referred to a case which he himself had observed in which at the commencement of an epileptic attack there was a temporary arrest of the heart's action, and other similar instances have been recorded. The cardiac arrest may, he submitted, be due to vagus inhibition of the heart and may be brought about by a widespread vaso-constriction. There is no doubt, he holds, that in epilepsy the vaso-motor system is unstable and an irregular pulse is frequently met with in epileptic patients. Having shown that there is evidence in favour of a derangement of the cerebral circulation at the time of an epileptic fit, Dr. RUSSELL maintained that this circulatory failure offers a more reasonable explanation of the phenomena of the disease than any hypothesis yet brought forward. He reminded his hearers that a partial cerebral anæmia has been demonstrated by Dr. LEONARD HILL to be capable of giving rise to the symptoms of an epileptic aura; also that in the condition of heart block, in proportion as the period of cardiac asystole increases, varying degrees of cardiac failure manifest themselves, producing transient unconsciousness indistinguishable from that of *petit mal*, or attacks with very temporary spasm, or finally definite epileptic fits. Dr. RUSSELL also supported his contentions by a brief consideration of uræmia. In this condition the blood pressure is considerably raised and the intracranial pressure is necessarily high. Working against this strain the heart may fail rapidly in chronic nephritis. Should this occur, or should the vaso-motor centre fail rapidly, it is clear that the cerebral circulation must also be affected and a state of anæmia be produced. Hence there is much force in Dr. RUSSELL'S contention that the pathology of the cerebral manifestations of uræmia is to be sought in disturbances of the circulation through the brain. Finally, the lecturer quoted Dr. F. W. MOTT, who has shown that the essential changes in the brain in cases of status epilepticus are (1) great venous congestion and stasis; and (2) œdema of the brain and marked distension of the perivascular lymphatics with flattening of the convolutions and increased vascularity visible to the naked eye. Inasmuch, however, as the brain is contained in a closed cavity, venous stasis and œdema must be associated with a corresponding arterio-capillary anæmia.

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[1] The Lancet, April 3rd and 10th, and p. 1093 of the present issue.

It will be seen that in his lectures Dr. RUSSELL maintained that the fundamental factor underlying both the ordinary faint and the epileptic fit is cerebral anæmia. He also stated that the difference between the two is one of degree rather than of kind. Dr. LEONARD HILL, however, has pointed out that no evidence has been forthcoming of any independent change pointing to the existence of any vaso-motor nerves supplying the brain. Dr. HILL states[2] that no positive proof of vaso-motor changes in the brain has appeared on stimulation of the vaso-motor centre, the central end of the spinal cord after division of the cord in the upper dorsal region, or on stimulation of the stellate ganglion. Further, he holds that no conclusive evidence has been produced of the existence of any local vaso-motor mechanism such as might be called into play by the injection of drugs into the cerebral circulation. Upon the knowledge hitherto accepted of the physiology of the cerebral circulation it would seem to follow from these considerations that the cause of fainting as well as of the epileptic fit lies outside the brain. With the fainting fit there is no difficulty in admitting the supposition, but with the epileptic fit there is naturally some hesitation in at once accepting circulatory disturbances commencing outside the brain as the true pathology of epilepsy. As an answer to this objection it is worthy of note that Dr. RUSSELL mentions the fact that a copious network of nerve fibres to the cerebral blood-vessels has recently been demonstrated. From a histological point of view this is valuable testimony in favour of his suggestions, and if physiological proof is also forthcoming the objection we have raised is weakened. There is another point, however, which he did not refer to—namely, the effect of drugs on the course of epilepsy. One of the most useful remedies in preventing the onset of the attacks is bromide of potassium. The main action of this drug is to allay excitability and irritability, but in persons under the influence of the drug venous stasis is liable to occur, probably due to the weakened condition of the heart, and perhaps also to an impaired tone of the vaso-constrictor nerves. Relaxation of the arterioles would allow more than the normal quantity of the blood to remain in the mesenteric and cutaneous vessels and would thus aid in the production of anæmia of the brain—the very condition it is desired to combat, according to the circulatory theory of the production of epilepsy. We shall look forward with interest to the further developments of the views so admirably laid down by Dr. RUSSELL. We congratulate him on having given to the profession a most useful course of lectures. In so doing he has upheld the wisdom of Dr. GOULSTON in founding the lectureship which he directed should be allotted annually to one of the "four youngest doctors in physic" of the College. The original work accomplished by those nominated to give the lectures each year has proved valuable to the progress of medicine, and the lectures delivered this year are worthy successors of those that have preceded them.

Annotations.

"Ne quid nimis."

THE RISKS OF THE LOCAL INOCULATION OF TUBERCULOSIS.

THE importance of the danger of the dissemination of tubercle bacilli by means of the sputum is known not only to the medical profession but also to the public, but it is not sufficiently appreciated that the saliva is also a possible medium of contamination. It is not only possible, but certain, that the saliva of patients affected with pulmonary tuberculosis is capable of conveying the disease, and on another page of this week's issue of THE LANCET is published an important paper on this point by Dr. Newman Neild and Dr. E. V. Dunkley. They show, in the first place, that in a large proportion of cases of phthisis tubercle bacilli can be found in the saliva, especially shortly after expectoration. In the second place, they were able to demonstrate by examining bacteriologically the flaps of envelopes which had been fastened by consumptives that in one case out of two tested tubercle bacilli could be found. Saliva plays an important part in the practical life of many people. It is looked upon as a providential arrangement for the provision of small quantities of liquid whenever required, and its ready availability has no doubt much to do with the extent of its employment. With saliva most people affix stamps to letters, even if from doubt of the cleanliness of the gum of the stamp, or from dislike of its taste, the letter is licked and not the stamp. Envelopes with embossed stamps on them save this necessity, but the envelope flap has still to be moistened and the tongue is the appliance usually employed. Moisture certainly favours the marking powers of a lead pencil, and here again the saliva is called into use. To turn over the leaves of a book moist fingers are found to be effective by not few uncleanly and barbarous persons, and the mouth is usually the readiest source of moisture. Should someone else use that pencil or that book the risk of the conveyance of micro-organisms from the first user to the second is by no means small. It will be remembered that in the "Arabian Nights" the contamination of the moistened fingers employed to turn over the leaves of a book is employed to poison an unjust king, and perhaps the episode was set down for our instruction—to warn us against a nasty trick. A school slate is happily becoming a thing of the past for several reasons, but the facility with which the tongue of the child served to erase the writing on the slate was very liable to lead to infection. Lastly, saliva is frequently employed for what may be euphemistically termed ablution, and though the practice is mainly prevalent amongst the lower classes, yet it is not unknown elsewhere, and as the victims are generally children there is little doubt that such ablution is widely used by nursemaids on the children they have to tend. Several other equally objectionable methods of employment are mentioned in the paper to which we have referred, and the conclusion at which we must arrive is that the use of saliva for anything else than for its digestive functions is very likely to disseminate disease. This *a priori* opinion is fully supported by a large amount of evidence of actual inoculation of tubercle by the saliva of phthisical persons. In some cases the patient inoculates himself, as when a woman with consumption applied her saliva to an irritating eruption on the arm, and at the site arose some lupus nodules. In such a case as this inoculation is especially likely, for the soil is suitable for the growth of the tubercle bacillus. In most of the cases, however, the patient is inoculated by means of the saliva of someone else. In piercing the lobule of the ear so as to permit the wearing of earrings the saliva of the operator is often employed to lubricate the needle, and from this source or from the use of the saliva as a styptic the appearance of a tuberculous nodule at the opening made is not very rare. In the performance of ritual circumcision it was the custom not long ago for the operator to stay the bleeding by sucking the wound, and though the practice is given up by the more educated mohelim, yet the primitive method is highly appreciated by a section of the Polish Jews. This practice has in many cases given rise to a local inoculation of tuberculosis. In some cases a tuberculous ulcer has appeared on the prepuce and in others the inguinal lymphatic glands have broken down. The objectionable procedure giving rise to these unfortunate cases is certainly less prevalent than formerly and it is to be hoped that it will die out entirely as the general level of education rises. Another mode of infection through the saliva of a tuberculous person is to be found in tattooing. Apart from mere sepsis, syphilis is the most frequent form of specific infection resulting from tattooing, but tuberculosis also occurs. Jadassohn's case is typical. A healthy woman, aged 30 years, was tattooed on the forearm by a consumptive man who afterwards died from phthisis. The Indian ink used for the tattooing was moistened with the man's saliva and typical lupus nodules developed on the tattooed patches. In tattooing the needles are often also moistened with saliva. It is clear that however convenient it may be to employ saliva for these manifold uses it is eminently desirable that such practices should cease, for they have been proved to be the means of conveying infectious disease in many instances, and we are fully justified in thinking that infection occurs by this channel in many cases in which no suspicion of it arises. The practice of licking stamps and envelopes should be done away with. When sealing a letter with wax was considered to be the correct method it was looked upon by many as an insult to have a letter fastened by a wafer sent to them, for as it was on one occasion somewhat crudely expressed, "Why should this man send me his spittle?" To say the very least of it, the promiscuous use of saliva is wanting in refinement, and, as the paper by Dr. Neild and Dr. Dunkley has shown, it is wanting in sense, for it introduces a quite unnecessary risk of microbic infection into our daily intercourse.

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[2] Sir T. Clifford Allbutt's System of Medicine, vol. viii., p 246.

SPRING CLEANING.

SPRING-CLEANING, especially when certain simple precautions in carrying it out are not observed, is not without its obvious possibilities for evil. The cardinal fact connected with this procedure is that there must always be potentialities for evil lurking in dust and dirt, and a general house cleaning means the removal of these deposits which usually represent the sum of a year's accumulation. It would be strange indeed if this accumulation was free from disease-producing organisms, and it never is. Bacteriological examination would be bound to reveal a rich garden of pathogenic entities in the household dust and dirt annually removed in the spring cleaning process. It follows that only that method of spring cleaning can be approved which secures the removal of the dust and dirt as against one which merely scatters them. Spring cleaning, after all, amounts to the application of aseptic principles to the dwelling-house, and modern refinements teach that unless the process is well done it might as well be left undone. The accumulation of dirt in a house is repugnant to sanitary ideas, but the process of cleaning should not be an annual ceremony but one carried out at more frequent intervals. Few householders, however, would find it convenient, we imagine, to submit the house to a kind of aseptic process more than once a year, and yet the fact that it is commonly done only once means that an accumulation of some depth and intensity has to be dealt with. Theoretically, no materials that may probably contain dormant disease-producing entities should be allowed to accumulate their forces, and therefore spring cleaning as an annual aseptic process applied to the house is wrong in principle. According to this view spring cleaning should be abolished in favour of a regularly conducted cleaning process kept up all the year round at comparatively short intervals. This is the course pursued by many careful citizens nowadays and the public would do well to follow their example.

ECLAMPSIA OR CEREBRAL HÆMORRHAGE.

THE occurrence of convulsions in pregnancy due to eclampsia is so much more common than any other variety of convulsive seizure that the practitioner is tempted to diagnose eclampsia at once in any case in which a pregnant woman has a fit. When we recall the fact that cerebral hæmorrhage occasionally complicates cases of eclampsia it is not surprising to find that the diagnosis between these two conditions may present great difficulties. Small meningeal hæmorrhages are, of course, not uncommon in cases of eclampsia and are usually attributed to the rise of blood pressure produced by the fits, and in accordance with this view they are most frequent in cases where a large number of convulsions have occurred. Cases of the apoplectiform eclampsia of the older writers characterised by large hæmorrhages into the brain substance are by no means so common, but do occur from time to time, and by masking to a large extent the symptoms and physical signs due to the eclamptic condition may render a certain iagnosis impossible. Dr. Alan Randle records a case in he present issue of THE LANCET, p. 1111, which is a good lustration of this difficulty. The patient, 43 years of age, multipara six months pregnant, was thought to be suffering from eclampsia, but at the post-mortem examination was ound to have a large cerebral hæmorrhage filling both entricles and extending to the medulla, the patient dying om respiratory failure. The urine contained a considerable uantity of albumin, but there was no paralysis or true næsthesia. The kidneys were of the red granular type, he liver was congested, and the heart was hypertrophied. he patient had suffered from lassitude and headache or ten days, but there was no history pointing to ny previous renal trouble and there was no œdema. he was confined of a six months' partly macerated œtus, and as the condition improved after her delivery he diagnosis of eclampsia was thought to be confirmed. t is very probable that not a few of the cases of so-called clampsia without fits may in reality be instances of cerebral æmorrhage simulating eclampsia. Among the more striking eatures, as N. C. Carver and J. S. Fairburn have pointed ut,[1] in cases where eclampsia is complicated by severe erebral hæmorrhage, especially when it involves the pons, s the youth of the patients, the absence of any fit, or the occurrence of only one or two followed by the onset of deep oma with respiratory stertor and in many cases Cheyne-Stokes breathing. A correct diagnosis is of the utmost mportance if an accurate prognosis is to be made, but only oo often the cerebral hæmorrhage is only discovered at a post-mortem examination, and in such cases the question as to whether the case is one of pure cerebral hæmorrhage or cerebral hæmorrhage complicating eclampsia will depend on the discovery of the characteristic lesions of eclampsia in the kidneys and the liver. Luckily, cases of extensive cerebral hæmorrhages, contrary to the general opinion, are in reality rare in eclampsia; thus in 216 cases collected by various writers in only seven did there appear to have been any large cerebral hæmorrhage. In an attempt to arrive at a correct diagnosis of eclampsia in a comatose patient stress must be laid on the previous history, the age of the patient, usually a youthful primipara, the discovery of a large quantity of albumin in the urine, the presence of œdema, the absence of hemiplegia or rigidity in the limbs of one side, and the occurrence of repeated convulsions. It is obvious that where a large area of the brain substance is destroyed by the hæmorrhage the diagnosis, as in Dr. Randle's case, may present almost insuperable difficulties, and it must be borne in mind that in some cases of hæmorrhages into the pons convulsions are not uncommon.

OVERCROWDING ON THE DISTRICT RAILWAY.

IT is a commonly expressed opinion that what are called facilities for locomotion lessen overcrowding both in the conveyances themselves and in the streets. As a matter of fact, the exact opposite seems to be the case as regards London. The discomfort and in some cases the dangers of overcrowding trains and the like have of recent years become notorious, and it cannot be wondered that numerous questions are asked in Parliament on the matter. On April 6th various members of the Labour Party attacked the Metropolitan District Railway Company on account of overcrowding. Mr. C. W. Bowerman pointed out that the overcrowding took place at morning and night, which is an undoubted fact. Mr. W. Thorne, on the other hand, argued that a great deal of the overcrowding happened in the middle of the day, because fewer carriages were run. Mr. H. J. Tennant, on behalf of the Board of Trade, promised to make representations. That overcrowding does exist is indubitable, but it is just as obvious and just as annoying upon the municipally owned tramcar as on the capitalist railway carriage. As the "thousands of working men and women," to whom Mr. W. Hudson, the Labour Member for Newcastle, referred upon the same occasion, to say nothing of a few thousand more persons to whom he would not grant the title of working man, all have to get to their work between the hours of 5 A.M. and 10 A.M., and all strive to get home between 5 P.M. and 8 P.M., we do not see how overcrowding is to be averted. The modern body politic is just as complicated as the natural body, and all these difficulties are part and parcel of modern industrialism. When the worker lived over his shop or the rich tradesman had a few apprentices who lived in the house, while the journeyman lived only a few doors away, the need for travel did not exist. But under modern conditions no one in a great city lives near his or her work. Moreover, a great part of the overcrowding is due to pleasure-seekers and the hordes of surburban dwellers who come up for "sales" and theatres. It is evident from a remark of Mr. Thorne, "Are railways run for shareholders only," that the outcry against overcrowding on railways is not solely due to anxiety in the interests of passengers, but is partly inspired by the wish for the nationalisation of railways. But the state in London of the municipally owned tramcar forms a poor argument in this direction. At present there would appear to be no remedy, although such a state of matters is both dangerous to life and injurious to health.

RUPTURE OF THE ŒSOPHAGUS.

WOUNDS and ruptures of the œsophagus are by no means common. Phthisical patients occasionally rupture the œsophagus and in inveterate alcoholics constant vomiting sometimes results in the walls giving way. Of course, also, injuries to the neck may, though they very rarely do, involve the œsophagus. What is probably an unique case of rupture by violent distension has recently occurred in Sweden, which is reported by Dr. G. Petrén, assistant in the clinic of Professor J. Borelius in the University of Lund. The patient was a vigorous, healthy man, 27 years of age, who was employed as a cleaner and working by means of compressed air conveyed through an indiarubber tube. As he wished to move he doubled up the tube with his hands and seized the end between his teeth. While doing so he slipped and lost his hold on the tube which delivered its contents at a pressure of seven atmospheres directly into his mouth. He fell down complaining of a severe pain in the chest and vomited a small quantity of mucus tinged with blood. Three hours afterwards when admitted to hospital the neck, the integuments of the thorax, and the chin were emphysematous, the pulse was small, rapid, and irregular, respiration painful, and the general aspect very bad. The pain was referred to the epigastrium. The man could not stand or lie down but had to keep a sitting posture. A few hours later the emphysema had encroached on the face, the eyelids, and the arms. The dyspnœa became more and more pronounced and the heart's action grew weaker and weaker, death occurring the next morning. At the necropsy a vertical clean rent in the œsophagus was found 6 centimetres in length, the upper extremity being 1·5 centimetres from the bifurcation of the trachea; the surrounding connective tissue was infiltrated with pus. Thus the rupture in this very special case occupied the same position as ruptures due to vomiting generally do—that is, the lower end of the œsophagus, sometimes even involving the cardia. They are generally longitudinal and present clean edges as if cut with a knife, and they are generally situated on the posterior or lateral aspect of the œsophagus. If a diagnosis could be made sufficiently early it is quite conceivable that operative interference might prove successful.

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[1] Proceedings of the Royal Society of Medicine, vol. i., p. 90.

PERIARTERITIS NODOSA.

THE obscure and rare condition known as *periarteritis nodosa* forms the subject of an interesting communication by Dr. Warfield T. Longcope to the February number of the *Proceedings of the Pathological Society of Philadelphia.* The patient whose case was investigated by Dr. Longcope was a coloured man, aged 35 years, admitted to the Pennsylvania Hospital under the care of Dr. James Tyson complaining of præcordial pain, dyspnœa, and œdema of the abdomen and lower extremities. His illness commenced about three weeks before admission with pains in the joints and calves of the legs, slight malaise, and weakness. The legs began to swell four days before admission and his dyspnœa increased. His temperature was 96° F., respirations 28, and pulse 56, the radial pulse being of small volume and tension, thready, and at times irregular. There was tenderness over the liver, which extended 3·5 centimetres below the costal margin. The leucocytes were found to number 13,200 per cubic millimetre. The urine contained a trace of albumin and numerous hyaline and finely and coarsely granular casts. About a fortnight later, after a temporary improvement, the urine suddenly became blood-stained and contained many granular and hyaline casts Later the leucocyte count rose to 32,000, while the hæmoglobin was found to be 58 per cent. The patient became more dyspnœic and died about a month after admission. At the necropsy the heart was found to be enlarged and there was a marked white thickening over its vessels. Near the apex there were greyish and yellowish streaks in the muscle The liver was enlarged and on section presented a curious coarse mottled appearance. Some of the small arteries were found to be plugged with firm red thrombi. Both kidneys showed on section a mottled appearance and it was often difficult to distinguish medulla from cortex. There were numerous small infarctions scattered through the cortex. On following up the renal blood-vessels, thrombi, red or white in character, were found in the arcuate arteries and extended as far as these could be followed. There was extensive softening of the left occipital lobe of the brain, and the left posterior cerebral artery was plugged throughout the greater part of its length by a firm red and grey thrombus. On microscopical examination changes typical of periarteritis nodosa were found in the smaller arteries of the heart, liver, kidneys, pancreas, testicles, brain, perineural connective tissues, and voluntary muscles. There were anæmic infarctions of the kidneys, foci of necrosis in the myocardium and liver, typical glomerular nephritis, and degeneration of voluntary muscles. In the larger vessels longitudinal section showed the presence of the nodules, and on approaching a nodule from a healthy portion of vessel, the first change noticed was in the adventitia where there was infiltration with small round cells, a few polymorphonuclear leucocytes and eosinophiles. A short distance from this changes were found in the intima which presented slight fibrous thickening covered with cells of various types. Somewhat nearer the nodule the media showed swelling of the muscle cells with loss of nuclei. Cross sections showed at the periphery of the nodule involvement first of the adventitia, then the intima, and, finally, more or less complete but often irregular destruction of the internal elastic layer and of the media. Some vessels showed general irregular dilatation of the vessel, others showed bulging on one side; occasionally the lumen was found to be partially occluded by proliferation and infiltration of the cells of the intima, but in other sections it was found to be plugged by a thrombus consisting of red blood corpuscles, polymorphonuclear leucocytes, fibrin, and platelets. The thrombi, like the changes in the walls of the vessels, were localised and were often confined to a very limited area. In older lesions the inflammatory changes were less prominent and the vessel wall was converted into a wide circular ring of cellular connective tissue, in the centre of which was an organising thrombus. In some such nodules no trace was to be found of the original smooth muscle of the media; or of the elastic tissue of the internal or external elastic laminæ. In the smaller vessels the lesions presented certain differences: they were usually clustered in definite lesions corresponding to the bifurcation of the arteries. The perivascular lymphatics at a distance from the nodules were distended with polymorphonuclear leucocytes and large phagocytes. The adventitia of the vessels as well as the perivascular connective tissue showed œdema and infiltration with various cells. This exudate was found to increase and some infiltration with fibrin also appeared until it formed a wide zone around the muscular ring of the media. The intima also showed infiltration with polymorphonuclear leucocytes, fibrin, and large pale cells. The fibrinous exudate in the intima sometimes increased to form a granular ring internal to the media which eventually became involved in the inflammatory process, and in the central part of all nodules it was entirely destroyed. Dr. Longcope, at the end of his valuable paper, discusses briefly the histogenesis and etiology of the disease. He points out that owing to its tendency to involve all the coats it is difficult to be certain of the primary lesion. In his own case he was able to find two instances in which the adventitia about minute arteries showed a localised infiltration with small round cells without changes in the media or the intima, and he is inclined to regard these as the beginnings of nodules. He concludes that in his own case the adventitia was the primary seat of attack, but he is not prepared to suggest that this is the rule in all cases. In regard to the etiology, no evidence was forthcoming to connect it with syphilis and no spirochætæ were demonstrated in sections prepared by the Levaditi method. By some mischance the cultures prepared from the liver and spleen were destroyed, so that no bacteriological studies could be carried out. Bombard in a recent case obtained staphylococcus albus in cultures from the liver and spleen, but with this exception the bacteriological investigation of these cases has given negative results. In spite of these failures, however, Dr. Longcope thinks that many of the features are in favour of the view that the disease is due to an acute infection, notably the fever, the leucocytosis, and the type of the inflammatory exudate. Moreover, the glomerular nephritis present in the cases of Hart and Bombard, as well as in his own case, is consistent with this view of causation by some intoxication or unknown infective agent.

EPSOM COLLEGE AND A BEQUEST.

THE will of the late Surgeon-General Richard Chapman Lofthouse, A.M.S., which consisted of a formal will and five documents explaining the testator's wishes, was considered in the High Court of Justice, Chancery Division, on March 17th and 18th. Although the testator declared that his trustees should, if possible, avoid taking any law proceedings in regard to the construction of and the carrying out of the trusts of his will, and that they should be guided in the application of the residue as much by the terms in the will set forth as by written instructions which he intended to deposit therewith, it was found to be necessary for the court to decide various points, and to discriminate between conditions which were essential and those which were directory only and not of the essence of the gift, that is to say, to determine which conditions were not precedent to the gift taking effect. Judgment was reserved on the conclusion of the hearing of the summons, and Mr. Justice Swinfen Eady delivered a written judgment on April 7th. The testator estimated the amount of the residue at £15,000, but the actual amount proved to be about £40,000. The will provides that an annuity of £100 is to be paid to the testator's sister, Mrs. Mary Ann Stirk; that during her lifetime the residue of the income of the trust is to accumulate and be invested; and that after her death the whole estate is to be realised and devoted to charitable purposes. Various carefully thought out projects and alternative schemes were provided for, but it is unnecessary to refer to these in detail since the court has decided that the first object mentioned in the will is the proper one to be carried out. Therefore the vicar and churchwardens of St. Mary's, Low Harrogate, are to receive the gift, the details of which are as follows: That the trustees are "to pay and apply such sum or sums of money after the death of the said Mary Ann Stirk in the erection of a church with entirely free seats, monument-chapel, and if means permit of a school house, in connexion with the Established Church of England, and also a sum of £1000 towards the endowment of such church (according to the written instructions given), provided the remainder required by the Bishop of the diocese for the endowment of the said church be found or contributed by the Ecclesiastical Commissioners or other Church association within a reasonable time." Any surplus up to £3000 that remains after carrying out the scheme mentioned above is to be equally divided between four charities in Harrogate—namely, the Bath Hospital, the Convalescent Hospital, the Home for Incurables, and the Cottage Hospital; and if a further sum of £1000 remains it is to be paid to the pension fund of Epsom College. The important question was raised whether the accumulations of income might now be stopped, notwithstanding that the testator's sister, Mrs. Mary Ann Stirk, is still living. As this lady objects to such a course being followed, on the ground that if she lives beyond 21 years from the testator's death, she, as sole heiress-at-law and next of kin, may become entitled thenceforward during the residue of her life to the income of the estate, no immediate application and division of the residuary estate can be made. Moreover, the amount which the Epsom College Pension Fund may receive is dependent upon the amount of the ultimate surplus, which in turn may depend upon the length of time during which the income of the trust fund is allowed to accumulate. The accumulation is, therefore, to be continued during the life of Mrs. Mary Ann Stirk, or until further order, not to exceed a period of 21 years from the testator's death.

THE LATE SIR DONALD CURRIE AND MEDICAL EDUCATION.

IT is with great regret that we have learned the death of Sir Donald Currie which took place at Sidmouth on April 13th. Sir Donald Currie was a man well known in the shipping world as the head of the Union Castle Line, while he for many years represented West Perthshire in the House of Commons. With his career as merchant and politician the world has been made very familiar by many excellent obituary notices in the press, but we wish here to lay stress on the fact that he was one of those philanthropists who, working unostentatiously, furthered many schemes for the welfare of his fellow creatures. Of late years he had interested himself in the needs of the Universities of Edinburgh and Belfast, and a little more than five years ago lent his support to the movement which has resulted in the incorporation of University College, London, in the reorganised University of London. To carry out this scheme it was necessary to find funds for the erection of a school of final medical studies in connexion with University College Hospital, and for this purpose Sir Donald Currie gave a sum of £80,000. As if this act of generosity was not sufficient, he further added a sum of £20,000 for the erection of a nurses' home and a maternity students' house in connexion with the same institution, and gracefully added a further sum of £2500 as a gift from his daughters to furnish the latter buildings. When we consider the straitened circumstances into which medical education in London has fallen, such generosity deserves from our profession the warmest thanks and approval. Sir Donald Currie, though well aware of the necessity for rich men to give of their wealth towards the maintenance of the hospitals of London and elsewhere, a duty to which he again and again responded, was none the less keenly alive to the necessity for providing support for the medical schools of the metropolis—institutions the maintenance of which is so important to the public at large. Though, as he stated in public, there was some reason to hesitate to provide funds for hospitals, because in his opinion these should receive support from the rates, there could be none when the needs of the medical schools were considered. He looked upon these as technical institutes of the greatest importance to the capital of the Empire, and in the absence of Government subventions he felt it was the duty of those who could give help to do so. As might be expected, holding these views, he was keenly alive to the necessity for supporting movements which had as their object the advancement of medical knowledge; the problems of disease, no less than high finance and politics, were readily grasped by his acute intellect and at once secured his sympathy and practical support. To him the present state of medical education in this country was a matter of serious import, and he hoped that the time would soon come when the medical teachers, like those of any other department of learning, would receive adequate endowment. His munificent gift for the purpose of the advancement of the interests of the University of London was a practical expression of his cherished views. To him it seemed a remarkable state of affairs that whilst on the continent medical studies receive the support of the various Governments, whether monarchical or democratic, and in America almost fabulous endowment at the hands of its enlightened rich, in London, with its unequalled opportunities for the investigation of disease, medical studies were cramped, and the hospital and medical school teachers were exploited in the interests of the public at large by a system which left the support of teachers and schools to the chance patronage of a comparatively few medical students.

CONGENITAL MALARIA.

THE possibility of the transmission of malaria to the fœtus in utero is a subject of discussion. The parasite has been found in the blood of the new-born on several occasions, but sufficient time had elapsed for post-natal infection. Hitte has described malarial parasites in the blood of the umbilical cord in two cases, but in the article on Malaria in Allbutt and Rolleston's "System of Medicine" Professor W. S. Thayer pronounces the evidence unconvincing. At a meeting of the Société Médicale des Hôpitaux of Paris on Feb. 5th M. Dumolard and M. Viallet reported the following case, which seems to put beyond doubt the possibility of congenital infection. A married woman, aged 31 years, was admitted into the civil hospital of Mustapha, Algiers, on August 12th, 1908. She had three healthy children and was in the seventh month of pregnancy. She lived in a malarious region but had always enjoyed good health until four days before admission, when she became feverish. After four hours the attack ended with abundant perspiration. On each of the following days a similar attack occurred. On examination on the 13th she was free from fever but was very anæmic and showed a slight subicteric tint which was due to hæmolysis, for the urine did not contain any bile. The spleen was markedly enlarged. The red blood corpuscles contained numerous non-pigmented hæmatozoa. On the morning of the 14th another attack occurred. 20 centigrammes of hydrochlorate of quinine were given hypodermically every two hours. On the 15th labour came on and a well-formed living male child weighing five pounds was born. It lived only an hour. Blood from the umbilical cord, the heart of the fœtus, and the placenta showed hæmatozoa like those found in the mother's blood. Quinine was not given on this day, and on the morning of the 16th a very grave attack of fever accompanied by stupor occurred. Three injections of 50 centigrammes of quinine were given on this day. On the 17th there was slight improvement and 20 centigrammes of quinine were given every two hours. On the 18th there was manifest improvement and 150 centigrammes of quinine were given and on the 19th the dose was reduced to 100 centigrammes. On the 20th there were no parasites in the blood and no quinine was given. An abscess formed on the abdomen at the site of the hypodermic punctures and was opened on the 30th. On Sept. 3rd there was phlebitis of the left leg with fever, pain, and œdema, but the uterus showed nothing abnormal and the general condition remained good. Recovery followed. M. Dumolard and M. Viallet considered that this case proves the possibility of the transmission of the malarial parasite across the placenta to the fœtus, for there was no uterine hæmorrhage by which the infection could have been conveyed. The question of the frequency of such transmission remains to be determined. As in other infections, the health of the mother, the virulence of the infection, the age of the fœtus, and alterations in the placenta, no doubt are factors. Many cases have been published to show that even in severe malaria the fœtus is not infected, but its health is often impaired. Probably when it escapes the hæmatozoon itself the toxins filter across the placenta. Another question is the relation of malaria to abortion. Malaria must be regarded as a powerful cause of abortion, which is more likely to occur when, as in the present case, the fœtus is infected. But apart from fœtal infection the destruction of the red corpuscles and the fever in the mother may produce abortion. It follows that a pregnant woman suffering from malaria should be given quinine in sufficient doses. No doubt in exceptional cases quinine excites uterine contractions and produces abortion, but it is the only means of saving the mother and the fœtus from an infection likely to produce abortion and then kill the mother. In the case reported above the infection of the fœtus showed that quinine was doubly indicated.

THE SYSTEMATIC DISINFECTION OF SCHOOL FLOORS.

AN interesting series of experiments indicating the value and importance of disinfecting school floors appears in a report made at the instance of the Buckinghamshire Education Committee by its staff science master, Mr. W. E. Marsh, B.Sc. During the six months from Jan. 1st to June 30th, 1907, the official returns showed that 43 schools were closed owing to epidemics in the county for an aggregate of 137½ weeks, involving a loss of 197,700 attendances. Although these results do not affect the Board of Education grant, as provision is made to allow for such cases, they mean a serious educational loss to the scholars and a waste of time to the teachers. In addition, of course, there is often some loss of life. Thus in a recent epidemic of diphtheria six deaths occurred amongst children in one village, four of whom were attending one school, and in another case no less than 16 children died from the same disease. As Mr. Marsh points out, it is difficult to trace accurately the effect of an epidemic in those cases where it is not severe enough to cause the closure of the school, but there is generally a very considerable drop in the attendances before it is decided to close the school for an epidemic, and in this case there is actual loss of grant to the school. In an instance quoted the grant lost has been estimated to be £80 over a period of six weeks before closing and six weeks following the reopening. In the same way the attendances take some time to regain their normal condition. In Mr. Marsh's preliminary experiments two rooms of similar size, shape, and having about the same number of scholars in each were selected. In one case the floor was sprinkled with plain water (1 gallon to each 400 square feet) and in the other with cyllin solution (1 in 350) in the same proportion. The rooms were left for half an hour and were then swept. Samples of the dust were collected and bacteriologically examined, with the result that an average reduction of from 75 to 85 per cent. of organisms was shown in the dust treated with disinfectant. It was also proved that the organisms in the air were considerably reduced by the disinfection of the floor. Later the Buckinghamshire Education Committee authorised the extension of the experiments, the results of which have been presented by Mr. Marsh in two reports. They show that the spraying was commenced in the first week of February, 1908, and was continued for 12 months. The floors of 24 schools were thoroughly sprinkled each day immediately after dismissal of the children in the afternoon. Each of these schools was paired with a school of the same type in the same district (sometimes in the same town or village) and, as far as could be arranged, with about the same number of children in attendance, so as to be reasonably certain that any abnormal cause of variation in attendance, such as inclement weather, should as far as possible affect both disinfected and non-disinfected schools equally. The result showed for the whole year an increased attendance of 0·76 per cent. at the disinfected schools. This may seem small, but, as Mr. Marsh observes, the difficulty of raising the attendance of course increases rapidly as the percentage approaches the maximum. The foregoing result, he adds, is equivalent to an increase of grant in the county of Bucks of about £500 per annum. The experiments in conclusion appear to Mr. Marsh to teach that the following advantages may be gained by the aseptic treatment of the school floor: (1) the better health of the scholars and teachers; (2) the probability that attacks of infectious diseases would be reduced in number and virulence; (3) the educational gain due to the greater continuity of the instruction following the more regular attendance of the scholars; and (4) the reduction in the cost of elementary education to the ratepayers owing to the increased grant being in excess of the cost of the process of disinfection.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE series of museum demonstrations at the Royal College of Surgeons of England will be brought to a close for the present session by the series which commences on April 23rd, when Professor A. Keith will show and explain the collection of specimens which illustrate malformations of the face, nose, mouth, pharynx, and neck. The demonstrations are given in the theatre of the College, Lincoln's Inn-fields, at 5 o'clock, the first on April 23rd, the second on April 30th, and the last on May 7th. Mr. R. J. Godlee has added to the College collection his series of specimens illustrating the peculiar formation on the palate described as the torus palatinus.

THE annual discussion of the Hunterian Society will be on Diseases of the Thyroid Gland with special reference to Exophthalmic Goitre. It will be opened on Wednesday, April 21st, at 8.30 P.M., by Professor G. R. Murray of Manchester. The discussion will be resumed on Wednesday, April 28th, when Sir Victor Horsley and Mr. James Berry will deal with the surgical aspects of the question. All members of the medical profession are invited to attend.

WE regret to announce the death, at 10, Stratford-place, after a long illness, of Louisa, wife of Sir T. Lauder Brunton. Sir T. Lauder Brunton's many friends will sympathise with him deeply upon his loss. A memorial service will be held at St. Peter's, Vere-street, W., on Saturday at 10.30 A.M., conducted by the Very Rev. the Dean of Salisbury.

A TELEGRAM from the Governor of Hong-Kong to the Secretary of State for the Colonies states that 6 cases of plague were reported during the week ending April 3rd, the number of deaths being five.

THE ROYAL COMMISSION ON THE POOR-LAWS AND RELIEF OF DISTRESS.

VII.[1]

IN CONCLUSION.

IF the reports issued by the Majority and the Minority of the members of the Royal Commission on the Poor-laws lead to no immediate legislative results upon a large scale they have beyond doubt achieved a great work by rousing public feeling. The evils are mostly of very old standing and have been greatly produced or aggravated by popular ignorance or neglect of everything connected with the physiology of education, with the preservation of health, and with the prevention of disease. There is now some prospect that these matters will receive attention and that the extent to which certain strata of our fellow countrymen have become demoralised by dirt and disease will before long be regarded as a national evil for which effective remedies must be sought. Such remedies will be found, we think, mainly in two directions: in a public health service of constantly increasing efficiency, appealing to all sections of the public by precepts, by examples, and by results; and in a gradual tightening up of the law as rapidly as growing public opinion will permit, so as to enable the cases of all gross offenders against sanitary requirements to be dealt with effectively. Parents who leave their children without proper food or clothing are now punishable in our courts, and those who neglect to keep them in a proper state of cleanliness should be punished in a similar manner. The law cannot profitably outstrip public knowledge and public opinion, but it may profitably keep just a step in advance of both and thus lead to their gradual improvement. Nothing useful was ever born full-grown, and no attempt at revolutionising the operations of the Poor-law by a stroke of the pen, or by a single Act of Parliament, is likely to be successful. The reports have, however, served the good purpose of directing attention to many evils for which remedies are required and will probably lead to legislation under which a course of gradual reform may be commenced without delay, and may ultimately be carried to its legitimate termination. We are unable to accept either of these reports in its entirety, but we welcome the light which they throw upon the actual state and conditions of problems which statesmen should feel it an imperative duty to solve. Perhaps the chief thing now to be feared is lest the conflicting advice of discordant counsellors should be employed as an excuse for complete inaction.

To carry one of the reports into effect or to frame legislation based upon selected portions of them, which woul cover the whole ground with which they are concerned, would, indeed, form a task before which the most courageous Cabinet, occupied with other questions of foreign and domestic policy, might pause and ponder. Some da perhaps a set of statutes, in themselves a volume of no mea dimensions, together with their supplementary rules frame by departments and having the force of law, may form monument to the industry of the Commissioners and preserv as the law of the land selected and approved excerpts fro their recommendations. A single Act will, almost obviously not suffice to contain the abolition of the boards of guardians condemned by both reports, and the appointment of their sub stitutes together with, for examples, whatever courses may b prescribed for the diminution of casual labour, and th relief of temporary distress in the cycles of unemployment, o which the reports take cognisance.

The reports of the two sets of Commissioners, as we hav shown in these articles, have common features, as well points of difference; each has been framed in the public servic and with a view to that service by honourable and able me and women, and it is probable that such legislation as ma take place will, as we have suggested, be of a select character. One point at which the two reports are at mark variance is the question of what controlling authority is direct in the future "Public Assistance," the relief, aid, a guidance of the poor, whom we shall have with us alwa however they may be classified, and in spite of su success as we may meet in our efforts to check the augmen tion of their ranks. It may be possible to establish Public Assistance authority upon lines suggested by majority and yet not to adopt the Majority's recommen tions as to the manner in which under that authority medi assistance, for example, is to be supplied to the poor. O may be thought advisable to give weight to the "Pub Assistance" proposals of the Majority and yet to aim at abolition of casual labour and unemployment upon lines s gested by the Minority in an extremely convincing mann The question how the task is to be performed of sift out the more desirable elements in the two reports, and combining them in a homogeneous whole, or in a series homogeneous wholes, is one as to which it is difficult to suggestions. No one can forecast the reply which time bring and which must to some extent depend upon politi developments wholly disconnected from the Poor-law those who administer it. The Minister who at some futu date grapples with the task set him by the Commission have to be one of exceptional attainments, and if he carr it out with any degree of success will enhance his reputati thereby.

Whatever delay may occur, however, and whoever statesman or statesmen may be who will take the fi steps towards initiating a new order of things, direction in which the first movement will be made see fairly clear. Due weight will no doubt be given to memorandum in which Dr. Downes expresses his dou as to the expediency of disturbing existing conditio and care will be exercised lest the change shou produce an interval of confusion and disorganisation, b it seems inevitable that the area of the administration Poor-law relief (to be administered under some new nam will be greatly increased and that the elective council orde ing the local affairs of the area, whatever it may be, w supply in some shape or form the governing authority. T Majority recommend that this should take the form of a ne body, chosen upon lines of a novel character, not consiste with modern tendencies towards representation and publ election, but having advantages which can readily be appr ciated, of independence, continuity, and expert knowledg The Minority would utilise existing committees of council dividing among them the tasks to be performed. Of the two courses, which are not incapable of being combined some extent, that recommended by the Minority has favour of its chances of ultimate adoption the natural desi not to increase the number of local bodies, and the fact th the distribution of the duties of Public Assistance among th various committees named by the Minority may spread the over a wider surface. The truth of the matter is that th effective carrying out of the suggestions of either report far as they affect the local and voluntary administration the law contemplated will impose very considerable task upon those who may be willing to undertake them. The publi spirited men and women who are willing to busy themselve without remuneration, and at some expense to themselves, in the various branches of local government already have their energies pretty severely taxed. It is an open question how much more we can, to use a sporting phrase, "get out of them," and the essential aim of bot[illegible] to be done which will require an [illegible] of trouble, intelligence, and expe[illegible] is now brought into play by the whole combined body of guardians and charitable workers. It is true that we find recommendations which promise paid assistance of various kinds, including increased supervision and direction to be exercised by Government departments, but the fact remains the same, that the men and women will have to be found who will voluntarily carry out arduous duties and will work intelligently and lovingly for results the attainment of which will depend not upon the law under which they are appointed but upon their own goodwill, wisdom, and industry. In a great cause all may wish to be industrious, and if voluntary workers are to be so, surely paid ones may justly be expected not to be laggards. At the same time the Commissioners assume that there is at the command of counties and boroughs an amount of labour [illegible] of time is of no light [illegible] fifth article[2] as to the [illegible] upon the patients who [illegible] rules propounded to them by medical officers. These are to impart advice upon such topics as well as, or in preference to, the prescription of medicine and medical extras, which, regrettably no doubt, are now as a rule the limit of the Poor-law medical officer's assistance to his patient. With the question of the exercise of compulsion the medical profession will not be directly concerned. If it is to be applicable in any form it will be preceded in all cases by instruction and persuasion, having for their object prevention rather than cure. If, however, the medical officer is to pers[illegible] and [illegible] thei[illegible] the [illegible] be e[illegible] results in a statistical form.

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[1] Nos I., II., III., IV., V., and VI [illegible] THE LANCET of Feb. 27th (p 638), March 6th ([illegible]). 859), and 27th (p 935), and April 10th (p. 106 [illegible]

It is not the desirable character of the objects aimed at by the Commissioners in their recommendations which has been questioned and which will have to be closely considered by the legislator in future sessions of Parliament, but the practical possibility of realising some of their ideals in the ordinary circumstances of life among the working or unemployable poor. The question of compulsion has to be borne in mind continually in perusing both reports, and is not peculiar to either. It arises, for example, when we study the Minority's opinion as to the causes of, and remedy [illegible] the *Times*[3] has asked, "Is it politically possible to take away a man's freedom, or to allow him to starve, not because he will not work at all, but because he prefers not to work continuously?" Of course, when we contemplate the carrying out of the advice of such a body as the Royal Commissioners, whose [illegible] has to be considered. [illegible] may be the first great [illegible] Poor-law is reformed, and may be the one with which the general public will most concern itself. Upon the enlargement of area and upon the institution of a new authority or authorities there will, however, follow necessarily other changes of detail in a large proportion of which the medical profession is concerned, for the greater part of the questions to be settled will be found to involve the physical care of the subject of poor relief with a view to his benefit in the present and to the safeguarding of the public in the future. It will then, no doubt, be found necessary to learn the deliberately formed opinions of persons outside the Commission, applying their personal experience and knowledge not to abstract propositions but to the criticism of formulated regulations affecting their own profession. Dr. Downes uttered a warning upon this subject in his memorandum, to which reference has been made.[4] As an instance of [illegible] already evoked by the report may be cited [illegible] resolutions in which the Poor-law Medical [illegible]ciation has condemned some of the proposals outlined by the majority of the Commissioners as to the medical service to be rendered under the contemplated system of public assistance. These resolutions[5] expressed in uncompromising terms the disapproval of the association with regard to points upon which they may be at variance with the opinion of many lay administrators of the Poor-law and of members of the medical profession who have given evidence before the Commission, but they indicate very plainly that the questions raised are not settled by the Commission's report and that much remains to be said by persons who are clearly entitled to be listened to. It is interesting to note the following passage in the resolutions referred to as supporting the suggestion made above with reference to the magnitude of the scheme of medical work devised by the Commissioners: Resolution (4) "That the Council strongly condemns the proposal to make every medical practitioner a Poor-law medical officer, and it does so for the following reasons." We quote the second reason out of four: "(b) That the value of the work done could never be properly tested, as no system of Local Government Board inspection could deal with so widely extended an arrangement for Poor-law medical relief." Another of the five resolutions passed expresses the Association's disapproval of any change which would allow a poor person to claim State medical relief without the intervention of a relieving officer or assistance officer, a matter concerning the practical organisation of medical assistance upon which the expert opinion of those engaged in such medical work must command attention when any scheme is in a form to which definite criticism can be applied.

As to the matter of possible voluntary assistance, outside that rendered by members of local governing bodies to which reference has been made, more expert evidence will no doubt also be forthcoming, when sections and rules are formulated which for their efficient carrying out require a staff of voluntary workers to perform duties not before existing. [illegible] the Bishop [illegible] comed the [illegible]g with the [illegible] If, how[illegible] detail may [illegible] to observe in conclusion that the reports of the Commissioners, both that of the Majority and that of the Minority, have aroused interest to a very striking degree, and it may be added that the problems of unemployment are so continually before us that this interest is not likely to be permitted to die out. The reports, however, of the Commissioners and that of Dr. McVail[6] draw attention to the urgency of other great questions, and point to possible improvements in existing conditions among the poor which are not so difficult of attainment as the abolition of unemployment. In Dr. McVail's report there is very interesting information with regard to the inadequacy of any effective treatment of phthisis, either curative or preventive, in existing conditions. This is one of many aspects of Poor-law medical relief, the contemplation of which has brought the Commissioners to unanimity in concluding that the existing Poor-law areas and the existing Poor-law authorities are inadequate for the purpose of efficiency and must be changed. The desirability of treating phthisis suitably, of bringing [illegible] out parents, is another subject as to which the pressure of public feeling may not allow the postponement of reform.

The evidence given before the Commission will keep these matters alive, although it is not likely that our fellow citizens generally will assimilate the whole mass of it. The two volumes which have been summarised briefly in these articles, the reports of the Commission and of the Minority, the memorandum of Dr. Downes, and the report of Dr. McVail will be sufficient to content the great majority, and we commend the earnest study of them both to those who desire to appreciate the merits of future legislative proposals and to those who, until the Poor-law is altered, are charged with the administration of it. The latter may effect many improvements in the lot of those intrusted to their care without waiting for the law to compel reform and without exceeding powers which allow considerable scope to their discretion, energy, and intelligence.

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[2] See THE LANCET, March 27th, 1909, p. 936.

[3] The *Times*, March 23rd, 1909.

[illegible] by Dr. Downes, The Report of the Royal [illegible]

THE ANNUAL REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1907.

THE publication of the annual report of the Sanitary Commissioner with the Government of India is always awaited with interest, for the information which it contains respecting the health of the population of our great Indian Empire, but it is unfortunate that the collection and preparation of statistics relating to this great public health department cannot be issued within a closer period to the year to which it relates. Much of the valuable medical material which the report supplies respecting the health of our troops, British and native, has, moreover, already been published in the searching and thorough report of the Director-General almost a year ago, and we are at a loss to understand the need for the duplication of effort and information.

For some years past the Sanitary Commissioner has compiled an interesting summary of current literature regarding enteric fever, gathered from papers and periodicals published on the Continent of Europe and in America. Much of this literature is written in foreign languages, a good deal of it being in German, which to many practitioners is unfortunately a sealed book. So that this summary with the comments of the Sanitary Commissioner may be said to place at the disposal of its readers the experiments and observations of scientific workers on this subject throughout the civilised world, material which otherwise would not be accessible to a considerable number. These summaries, it may be added, have been admittedly much appreciated, not only by officers of the Indian Medical Service, but by those engaged in public health work at home. Owing to the absence on leave in Europe of Lieutenant-Colonel J. T. W. Leslie, I.M.S., the Sanitary Commissioner, the preparation of the annual report for 1907 was intrusted to the officiating Commissioner, Lieutenant-Colonel C. J. Bamber, I.M.S. The plan of the report is the same as that of previous years and comprises nine sections which deal with different subjects, including the meteorology of the year, the health of the British and native troops, jails, vital statistics of the general population, the history of the chief diseases, vaccination, sanitary works, and general remarks. We are at the present moment dealing in a detailed manner with many of these reports separately. Seven sections of statistical matter are appended in the form of tables which are exceedingly useful for reference purposes.

The Health of the European Army.

Excluding officers, the average daily strength of the European army in India during 1907 was 69,332. Among the body of troops the general health was good, the rates of admission to hospital, of constantly sick, of mortality, and of invaliding being all lower than in the previous year and lower than the rates in the antecedent quinquennium. The first three of the rates above mentioned were the lowest as yet recorded among the European army in India. The decrease of sickness was due chiefly to there being fewer admissions on account of venereal diseases, ague, and simple continued fever (the chief causes of sickness during the

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The main causes of invaliding were ague, debility, tubercle of the lungs, valvular disease of the heart, enteric fever, disordered action of the heart, and syphilis, these accounting together for one-half of the total number of invalidings. The number of men sent home on account of ague was 266, compared with 135 in 1906; tubercle of the lungs, 107, as against 92 in the previous year; 76 men were invalided for syphilis and 86 for enteric fever, compared with 120 and 115 respectively in 1906. There were 30 cases of small-pox and one death; 16 of the patients, it appears, had never been successfully revaccinated. The period which had elapsed between revaccination, if any, and the occurrence of the small-pox attack in the 14 other cases is not, however, stated. The patient who died had been vaccinated in infancy but had not been revaccinated. For intermittent fever 10,538 cases were admitted to hospital and nine died. At the divisional laboratories 6633 films of blood were examined for malarial parasites with a positive result in 2415 instances, or 36·4 per cent. Among European troops in India the benign tertian parasite, it seems, is by far the commonest. Only five patients came under observation with Malta fever, compared with seven in 1906. With regard to enteric fever, 910 cases were reported during the year, 192 of them proving fatal, as against 106 attacks and 224 deaths in 1906; the amount of this disease has shown a marked decline during the last five years. The admission rate for enteric fever, 13·1 per 1000 of the average strength, was the lowest recorded since 1388, and similarly the death-rate from it was the lowest since 1885. Enteric fever was more prevalent among the troops in the southern than in the northern army, the divisions showing the greatest incidence being Mhow, Secunderabad, Meerut, and Rawalpindi. Burma showed the smallest incidence. In only one outbreak was the infection traced to contaminated water. Milk was probably the cause of certain cases. Uncooked vegetables and salads purchased from native hawkers were regarded as responsible for some occurrences, and in one instance mineral waters. Flies were regarded as one of the chief agents in spreading the disease at several stations and in some others infected dust was blamed. Two nursing orderlies were found to be bacillus carriers, as also a cook. In the valuable summary of the year's literature of enteric fever, which is given by the officiating Sanitary Commissioner, special attention is directed to the characters of the bacilli of paratyphoid and enteric fevers, the bacteriological methods of diagnosis, the ophthalmic reaction test, the Widal test, the isolation of the bacillus typhosus from the blood, the fæces, and the urine, as also from the tonsils and pharynx. The epidemiology of the disease is also discussed; and the subject of "chronic bacillus carriers," the methods of infection by contact, by water, and by milk, are also considered, as also are preventive measures. References to recent papers dealing with antityphoid inoculation and with serum-therapy are given, along with a list of books and papers referred to in this section. As regards venereal diseases the fall in the rates relating to these is one of the most remarkable features of the statistics of the European army in India, and is attributed in part to the efforts made by the officers and others to occupy the spare time of the men in healthy pastimes, and to make the regimental institutes comfortable and attractive, and by this means influencing the men to avoid contracting venereal infection. There are, too, better education and a higher moral tone among the soldiers, and increased knowledge of the dangers arising from these diseases, causing greater care in personal prophylaxis, and there is also undoubtedly less indulgence in alcohol. There were 17 suicides, of which eight were by gunshot, two by cut throat, two by hanging, one by drowning, one by fracture of the skull, and one each by poisoning with oxalic acid, opium, and sulphuric acid.

The Health of the Native Army of India.

The average strength of the native army in 1907 was 126,392, and their health was generally good, the rate for constantly sick, the invaliding rate, and the death-rate from all causes being the lowest on record. The decreased rate of admission to hospital was [illegible] agne. The [illegible] The truth [illegible] due to the lesser prevalence of [illegible] carrying out of [illegible] far as they affect admission rates for simple continued fever, the law [illegible] venereal diseases were [illegible] dysentery, cholera, diarrhœa, and There was a reduction in the mortality lower than in 1906. remittent fever, but from tubercle of the lungs and there was an increase in the mortality from enteric

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[1] Nos. I., II., III., IV., V. and VI. [illegible] LANCET of Feb. 27th (p. 639), Marc[illegible] 27th (p. 935), and April 10t[illegible] 1909 [illegible] 259

fever and ague. The chief causes of sickness were intermittent fever, dysentery, simple continued fever, "other respiratory diseases," venereal diseases, and anæmia and debility. 12 cases were diagnosed as kala azar during 1907, compared with ten in 1906; the diagnosis was confirmed in every instance by finding the Leishman-Donovan parasites in the blood obtained by splenic or hepatic puncture, and in one case in smears from the spleen made after death. The infection, it is believed, was contracted in most, if not in all, cases when the men were on furlough at their homes. Relapsing fever caused 31 admissions and five deaths. There were 182 attacks from enteric fever, 62 from Malta fever, 85 from plague, 48 from small-pox, 34 from cholera, and 24 from typhus fever. The admissions for intermittent fever numbered 27,865, those from remittent fever 567, and from simple continued fever 2094. Tubercle of the lungs caused 324 admissions, and of these 42 died. There were only 1864 admissions for venereal diseases and two deaths. The admission rate for syphilis was 4·9 per 1000, for soft chancre 4·0, and for gonorrhœa 5·8 Guinea-worm caused 472 admissions and beri-beri only seven. Nine cases of suicide among native soldiers were reported in 1907, seven of them by gunshot, one by opium, and one by drowning.

The death-rate from all causes among the native troops was only 6·27, as compared with 8·18 among the European army in India.

The Jails of India.

There is a distinct improvement observed in the health of prisoners detained in the jails of India, the conditions under which they live being more favourable to them than if they lived outside. The scourges of the general population, like cholera and plague, now scarcely affect the prison statistics, and the medical officers of the jails have attained a high degree of success in preventing the spread of other communicable diseases in these institutions. On the other hand, the prison population contains a large number of famine-stricken, weakly, and unhealthy persons, but notwithstanding this the health of the prisoners during 1907 was good and the death-rate, calculated on an average daily population of 107,675 (including the Andaman Islands), was only 18·51 per 1000, the lowest rate as yet recorded in Indian jails. The diseases which caused the most admissions to hospital were intermittent fever, dysentery, abscesses, ulcers, boils, and diarrhœa. The most common causes of death were dysentery, tubercle of the lungs, and pneumonia. 56 cases of epidemic dropsy with five deaths, as also 107 cases of beri-beri, were reported during the year, and special investigations into these two diseases were made respectively by Captain D. Munro, I.M.S., Deputy Sanitary Commissioner of Bengal, and by Captain E. D W. Greig, I.M.S., officiating director of the Central Research Institute, Kasauli.

Vital Statistics of the General Population.

The total population now under registration in India is 225,921,260, but there are still areas which have not yet been brought under registration, including some in the Madras Presidency, the Laccadive and Amindivi Islands, Eastern Bengal and Assam, the North-West Frontier Province, Lower Burma, and also considerable areas in Upper Burma. The population figures on which the rates are calculated are those of the 1901 census; but these obviously become less accurate for purposes of calculation as the date of the census recedes. The total birth [illegible] a birth-rate of 37·65 per [illegible] with 37·80 and 39·13 i[illegible] Central Provinces again showed the highest birth-rate—namely, 52·46, the lowest, 30·8, being yielded by the Madras Presidency. The mean number of males born to every 100 females was 106·8. The total deaths registered amounted to 8,399,623, a death-rate of 37·18, against 34·74 and 35·96 in 1906 and 1905 respectively. The highest death-rate occurred in the Punjab, 62·10, nearly half of which was due to plague. The Presidency of Madras had the lowest death-rate, namely, 24·3. The infantile mortality rate per 1000 children born was 215.

History of the Chief Diseases in India.

More than three-fourths of the total mortality was due to the following causes: "Fevers," plague, cholera, diarrhœa and dysentery, and small-pox, these diseases accounting for no fewer than 6,425,385 deaths out of the total 8,399,623 registered during 1907.

Fevers.—Under this heading, which is a somewhat indefinite one, 4,464,881 deaths were certified, giving a death-rate of 19·76 per 1000 of the population, and accounting for rather more than half of the total deaths from all causes. Many deaths are returned as from "fever" which are due to other causes; it is estimated that rather more than a million of them were due to malaria, and as plague was widely prevalent probably a number of deaths from it were returned as "fever." The provinces which yielded the largest number of deaths from "fevers" were the United Provinces and Bengal, which had respectively 1,350,405 and 1,171,540 such deaths reported.

Plague.—The deaths from plague in 1907 numbered 1,315,707 the highest total as yet recorded in any year since the beginning of the present epidemic in India. In the previous year only 300,355 plague deaths had been registered. The province which suffered most from plague in 1907 was the Punjab, where 608,685 fatal cases occurred, nearly a half of the total plague deaths in India during the year. In the United Provinces there were 328,862 fatal plague cases, in Bombay Presidency 93,609, and in Bengal 83,602.

Cholera.—[illegible] The total [illegible] (including t[illegible] in 1906. The provinces in which the greatest number of cholera deaths occurred were Bengal, where 205,702 were certified; the Madras Presidency, 81,565; Eastern Bengal and Assam, 77,181; and the United Provinces, 22,438.

Diarrhœa and dysentery.—Under this heading 298,117 deaths were reported during the year, of which the Madras Presidency had 60,326; Bombay Presidency, 53,708; and Bengal, 51,670.

Small-pox.—From this cause 103,988 deaths were certified in 1907, as against 109,583 in 1906, and 70,912 in 1905 Of the deaths in 1907 Bengal was responsible for 29,066, the United Provinces for 22,645, and the Madras Presidency for 22,455.

Vaccination.

The total vaccinations amounted in the year to 9,169,873, which is a slight increase over the number performed in 1906. The percentage of success attained in primary cases was 97·65 and in revaccinations 75·45. All the provinces, except the Central Provinces and the North-West Frontier Province, as well as the two small provinces of Ajmer-Merwara and Coorg, maintain their own vaccine institutes for the production of lymph.

General Remarks.

At the Central Research Institute, Kasauli, as regards original research, the staff was engaged mainly in carrying on the inquiry regarding the etiology and mode of spread of enteric fever in India, which was begun in 1906. Other investigations connected with the problems of immunity and vaccine therapy were in progress at the end of the year. Investigation of the etiology and mode of spread of dysentery, on the same lines as that of enteric fever, has been begun. This institute also was engaged in the preparation of antivenene and curative sera, and also in routine bacteriological examination of specimens sent for diagnostic purposes. The Bombay Bacteriological Laboratory is used (1) for the preparation and issue of antiplague vaccine for the whole of India; (2) as the chief laboratory for plague research work; and (3) as the provincial laboratory for the Bombay Presidency. At the King Institute of Preventive Medicine, Madras, the bacteriological examination of specimens from medical officers, sanitary authorities, plague officials, and others, is carried out; also the chemical and bacterioscopic examination of water; and other scientific work is undertaken At the Pasteur Institute, Kasauli, 1349 persons, of whom 433 were Europeans, underwent the antirabic treatment in 1907 for bites of animals, mostly dogs; but in addition to 123 cases bitten by jackals there were others bitten by wolves and cats. There were only six failures to secure immunisation. This institute also serves as the provincial laboratory for the Punjab. The Pasteur Institute of Southern India, Coonoor, was opened in April, 1907; in it 186 patients have been treated, of whom four did not complete the full course. One patient died on the seventh day and eight remained under treatment at the end of the year. There was no failure, since the fatal case had been bitten by a jackal 29 days before he came under treatment.

It is satisfactory to learn that the Secretary of State towards the end of 1907 sanctioned proposals for placing the various existing appointments connected with the bacteriological laboratories on a definite footing and for the creation of additional appointments. A list of scientific publications issued during the year by members of the Indian Medical Service is appended.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 16th, 1831.

INVENTION OF THE STOMACH-PUMP.

To the Editor of THE LANCET.

SIR,—While turning over, the other day, the lectures of Sir A. Cooper, published by you in THE LANCET, I was surprised to find Sir Astley attribute the invention of the stomach-pump, as applicable to the removal of poisons from the stomach, to Mr. Jukes of Pimlico, in the following words:—"With respect to the medical application of the syringe, however, for the purpose of removing poisons from the stomach, we are indebted for it to Mr. Jukes." Without wishing to detract from the merit of Mr. Jukes, in having introduced to public notice so valuable an instrument, I must remark that a precisely similar instrument was invented, many years since, by M. Renault, a French surgeon and that a description of it by Alibert exists as far back as the year 1804. An extract may not be uninteresting to those who dip a little into medical literature.

"If great difficulty be experienced in compelling the stomach of a person who has taken poison, to reject its contents, if the jaws be affected by tetanus to such a degree that nothing can be introduced into the stomach, M. Renault proposes that we have recourse to a tube of gum-elastic, of sufficient length to reach by one extremity into the stomach, and of sufficient calibre to give free passage to any matter we may wish to introduce into this viscus. The external extremity of the tube is mounted with a metal ring, to which a syringe may be adapted. M. Renault is of opinion that, with the assistance of this tube, we may inject a sufficient quantity of liquid into the stomach and afterwards withdraw it by the action of the piston."

I remain, Mr. Editor,
Your obedient servant,
P. H. GOWER.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8802 births and 5653 deaths were registered during the week ending April 3rd. The annual rate of mortality in these towns, which had been 22·1 and 19·8 per 1000 in the two preceding weeks, further declined to 17·9 in the week under notice. During the 13 weeks of the past quarter the death-rate in these towns averaged 18·8 per 1000, and in London the mean rate during the same period was equal to 19·6 per 1000. The lowest annual death-rates recorded in these towns in the week under notice were 6·0 in Hornsey, 8·0 in Walthamstow, 8·3 in Barrow-in-Furness, and 8·9 in Smethwick; the rates in the other towns ranged upwards to 24·4 in Oldham, 27·0 in Wigan, 27·3 in Great Yarmouth, 28·1 in Warrington, and 30·7 in St. Helens. In London the recorded death-rate during the week was equal to 18·3 per 1000. The 5653 deaths from all causes in the 76 towns during the week showed a further decline of 598 from the number in the preceding week, and included 578 which were referred to the principal epidemic diseases, against 725 and 683 in the two preceding weeks; of these 578 deaths, 329 resulted from measles, 103 from whooping-cough, 49 from diphtheria, 46 from diarrhœa, 41 from scarlet fever, nine from "fever" (principally enteric), and one from small-pox. No death from any of these epidemic diseases was registered during the week in Gateshead, Leyton, Birkenhead, Halifax, or in nine other smaller towns; the annual death-rate therefrom, however, ranged upwards in the other towns to 4·0 in Preston, 8·6 in Wigan, 9·4 in Warrington, and 15·9 in St. Helens. The fatal cases of measles, which had been 438 and 410 in the two preceding weeks, further declined to 329 in the week under notice; the highest death-rates from this disease were 3·1 in Reading and in Sheffield, 3·8 in Bootle, 3·9 in West Hartlepool, 4·6 in Wigan, 8·7 in Warrington, and 14·8 in St. Helens. The 103 deaths from whooping-cough showed a further decline from the numbers in recent weeks, but caused death-rates equal to 1·1 in St. Helens and in Swansea, 1·7 in Norwich, and 3·1 in Preston. The 49 deaths from diphtheria were ten fewer than the number in the preceding week, the highest death-rate from this disease being 1·1 in Huddersfield. The 46 fatal cases of diarrhœa exceeded the number recorded in any of the previous six weeks; in Wigan the mortality from this cause was equal to 2·9. The 41 deaths from scarlet fever showed no variation from the number in the preceding week, and included 12 in London and its suburban districts, ten in Manchester, and four in Liverpool. The nine deaths referred to "fever" showed a further considerable decline from the numbers in recent weeks. The fatal case of small-pox was recorded in Bristol. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospitals, which had been 2596 and 2571 at the end of the two preceding weeks, had further decreased to 2462 on April 3rd; the new cases of this disease admitted to these hospitals during the week numbered 273, against 279 and 327 in the two preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 651 and 567 in the two preceding weeks, further declined to 399, but were 55 in excess of the corrected average number in the corresponding week of the five years 1904–08. The deaths in London referred directly to influenza during the week declined to 107, but exceeded the corrected average by 75. The causes of 51 or 0·9 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, Leicester, and in 46 other smaller towns; of the 51 uncertified causes of death, however, nine were registered in Liverpool, eight in Birmingham, four in Sheffield, and three in London and in Manchester.

During the week ending April 10th 8230 births and 5364 deaths were registered in 76 of the largest English towns. The annual rate of mortality in these towns, which had declined from 22·1 to 17·9 per 1000 in the four preceding weeks, further fell to 17·0 last week. For the 13 weeks of the past quarter the death-rate in these towns averaged 18·8 per 1000, and in London the mean rate for the same period was 19·6 per 1000. The lowest recorded death-rates in these towns last week were 4·4 in Hornsey, 7·8 in Stockton-on-Tees, 8·2 in Handsworth (Staffs), and 8·4 in Walthamstow and in Ipswich; while the rates in the other towns ranged upwards to 24·5 in Birkenhead, 28·2 in Middlesbrough, 29·0 in Tynemouth, and 31·8 in St Helens. In London the recorded death-rate during the week was equal to 15·9 per 1000. The 5364 deaths from all causes in the 76 towns last week showed a decline of 284 from the number in the previous week, and included 593 which were referred to the principal epidemic diseases, against 725, 683, and 573 in the three preceding weeks; of these 593 deaths, 327 resulted from measles, 107 from whooping-cough, 53 from diphtheria, 47 from scarlet fever, 37 from diarrhœa, and 22 from "fever" (principally enteric), but not any from small-pox. The 593 deaths from these epidemic diseases in the week under notice were equal to an annual rate of 1·9 per 1000, against rates declining from 2·3 to 1·8 in the three preceding weeks. No death from any of these epidemic diseases was registered last week in Leyton, Halifax, Hornsey, Newport (Mon.), Ipswich, or in six other smaller towns; the death-rates therefrom ranged upwards, however, to 4·5 in Bootle, 4·6 in Portsmouth, 6·5 in Sunderland, and 10·4 in St. Helens. The fatal cases of measles in the 76 towns, which had declined from 438 to 329 in the three preceding weeks, further fell to 327 last week; the highest death-rates from this disease in the week under notice were 3·0 in Bootle, 3·1 in Reading, 3·2 in Portsmouth, 3·3 in Sheffield, 5·2 in Sunderland, and 8·2 in St. Helens. The 107 deaths from whooping-cough showed a slight increase over the number in the preceding week, and caused death-rates equal to 1·0 in Walsall and in Stockport, 1·1 in St. Helens, 1·2 in York, 1·3 in Coventry, and 1·5 in Rhondda. The 53 fatal cases of diphtheria were four in excess of the number in the previous week, the highest death-rates from this cause being 1·0 in Portsmouth and in Wolverhampton and 1·2 in Rhondda. The 47 deaths from scarlet fever exceeded the number recorded in any of the preceding 11 weeks, and caused rates ranging upwards to 1·3 in King's Norton and 2·2 in Wallasey. The 37 fatal cases of diarrhœa showed a decline from the numbers in recent weeks; the highest death-rates from this disease were 1·1 in Swansea, 1·2 in Aston Manor, and 1·5 in Smethwick. The deaths referred to "fever," which had been 22, 15, and nine in the three preceding weeks, rose again to 22 last week, and included two each in London, Manchester, Huddersfield, and Middlesbrough. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the *London Fever Hospital*, which had declined from 2873 to 2462 at the end of the five preceding weeks, had further fallen to 2418 on Saturday, April 10th; 256 new cases were admitted during the week, against 279, 327, and 273 in the three preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had decreased from 758 to 399 in the four [illegible] ek to 310, and were [illegible] the corresponding [illegible] deaths in London referred directly to influenza fell last week to 62, having been 125, 138, and 107 in the three preceding weeks. The causes of 44, or 0·8 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, Leeds, Bristol, West Ham, Newcastle-on-Tyne, Nottingham, Salford, and in 48 other smaller towns; the 44 uncertified deaths included seven in Birmingham, five in Gateshead, four in Liverpool and in Sheffield, and three in Manchester and in St. Helens.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 21·6, 21·1, and 20·5 per 1000 in the th[illegible] further declined to 19·9 in the wee[illegible]g the 13 weeks of the past qu[illegible]ese eight towns averaged 19·5 [illegible] 0·7 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rates during the week under notice ranged from 13·8 in Aberdeen and 15·2 in Leith, to 23·3 in Paisley and 24·5 in Greenock. The 712 deaths from all causes registered in the eight towns showed a further decline of 20 from the numbers in recent weeks, and included 78 which were referred to the principal epidemic diseases, against 96, 87, and 80 in the three preceding weeks; of these 78 deaths, 47 resulted from whooping-cough, 14 from diarrhœa, six [illegible] let fever, five from "fever," [illegible] any from small-pox. These [illegible] ses were equal to an annual rate of 2·2 per 1000, or 0·4 per 1000 above the mean rate during the week from the same diseases in the 76 English towns. The fatal cases of whooping-cough, which had been 51 and 52 in the two preceding weeks, declined again to 47 in the week under notice, and included 32 in Glasgow, nine in Aberdeen, three in Edinburgh, and two in Dundee. The [illegible] from scarlet fever also occurred in Glasgow, as did three of the five deaths referred to "fever," of which two were certified as enteric fever and one as cerebro-spinal meningitis; one fatal case of enteric fever occurred in Perth and one of cerebro-spinal meningitis in Edinburgh. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 187 and 180 in the two preceding weeks, further declined to 163 in the week under notice, but exceeded by 49 the number registered in the corresponding week of last year. The causes of 26, or 3·8 per cent., of the deaths registered in the eight towns during the week were not certified; in the 76 English towns the proportion of uncertified causes of death did not exceed 0·9 per cent.

The annual rate of mortality in eight of the principal Scotch towns, which had declined from 21·6 to 19·9 per 1000 in the four preceding weeks, further fell to 17·7 per 1000 in the week ending April 10th. During the 13 weeks of the past quarter the annual death-rate in these eight towns averaged 19·5 per 1000, and exceeded by 0·7 per 1000 the rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rates in the week under notice ranged from 11·9 in Paisley and 13·4 in Leith, to 19·6 in Glasgow and 20·6 in Dundee. The 634 deaths from all causes registered in the eight towns last week showed a further decline of 78 from the number in the preceding week, and included 90 which were referred to the principal epidemic diseases, against 87, 80, and 78 in the three preceding weeks; of these 90 deaths, 55 resulted from whooping-cough, 13 from diarrhœa, nine from diphtheria, seven from "fever," three from measles, and three from scarlet fever, but not any from small-pox. These 90 deaths were equal to an annual rate of 2·5 per 1000, being 0·6 per 1000 above the mean rate last week from the principal epidemic diseases in the 76 large English towns. The fatal cases of whooping-cough in the Scotch towns, which had been 52 and 47 in the two preceding weeks, rose again last week to 55, of which 42 occurred in Glasgow, four in Dundee, three in Edinburgh, and two in Aberdeen. The 13 deaths from diarrhœa were slightly below the number in the previous week, and included eight in Glasgow and three in Dundee. The fatal cases of diphtheria, which had been 12, eight, and six in the three preceding weeks, rose again last week to nine, of which four were registered in Glasgow and two in Dundee. Of the seven deaths referred to "fever," four of enteric and two of cerebro-spinal meningitis occurred in Glasgow, and one of cerebro-spinal meningitis in Paisley. All the three fatal cases of scarlet fever were registered in Glasgow; and two of the three deaths from measles occurred in Aberdeen. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 187, 180, and 163 in the three preceding weeks, further fell to 108 in the week under notice, and were 20 fewer than the number in the corresponding week of last year. The causes of 25, or 3·9 per cent., of the deaths registered in the eight towns last week were not certified; in the 76 English towns the proportion of uncertified causes of death did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been 29·3 and 27·2 per 1000 in the two preceding weeks, further declined to 25·9 per 1000 in the week ending April 3rd. During the 13 weeks of the past quarter the death-rate averaged 25·7 per 1000, the mean rate during the same period being 19·6 in London and 18·1 in Edinburgh. The 198 deaths of Dublin residents from all causes during the week under notice showed a further decline of ten from the numbers in the two preceding weeks, and included 20 which were referred to the principal epidemic diseases, against 17, 13, and ten in the three preceding weeks. These 20 deaths were equal to an annual rate of 2·6 per 1000; the rate from these epidemic diseases in the same week was equal to 1·8 in London, and did not exceed 0·9 [illegible] diarrhœa; the mortality from each of these diseases exceeded that recorded in recent weeks. No death from small-pox, from scarlet fever, or from "fever" was registered during the week under notice. The 198 deaths in Dublin during the week included 36 of infants under one year of age and 56 of persons aged upwards of 60 years, the latter being 15 below the [illegible] in each of the two preceding weeks. Thre[illegible] from [illegible] were regis[illegible] or 3[illegible] of the deaths occurred in public institutions. The causes of five, or 2·6 per cent., of the deaths in Dublin last week were not certified either by a registered medical practitioner or by a coroner; in London the causes of all but three of the 1701 registered deaths were duly certified; while in Edinburgh 5·6 per cent. of the causes of death were uncertified.

The annual rate of mortality in Dublin, which had declined from 29·3 to 25·9 per 1000 in the three preceding weeks, further decreased to 25·5 in the week ending April 10th. During the 13 weeks of last quarter the death-rate averaged 25·7 per 1000, whereas the mean rate during the same period did not exceed 19·6 in London and 18·1 in Edinburgh. The 195 deaths of Dublin residents from all causes during the week under notice showed a further slight decline from the numbers in recent weeks, and included 17 which were referred to the principal epidemic diseases, against 10 and 20 in the two preceding weeks. These 17 deaths were equal to an annual rate of 2·2 per 1000; the rate from these epidemic diseases in the same week was equal to 1·8 in London and 0·6 in Edinburgh. Of the 17 deaths from these epidemic diseases in Dublin last week, seven resulted from whooping-cough, six from measles, two from diarrhœa, one from diphtheria, and one from "fever," but not one either from scarlet fever or from small-pox; the deaths from whooping-cough just exceeded the number in the preceding week, while those from measles showed a small decrease. The 195 deaths registered during the week included 39 of infants under one year of age and 52 of persons aged upwards of 60 years; these numbers being respectively three above and six below the corresponding numbers in the previous week. Seven inquest cases and four deaths from violence were registered; and 89, or 45·6 per cent., of the deaths occurred in public institutions. The causes of six, or 3·1 per cent., of the deaths in Dublin last week were not certified either by a registered medical practitioner or by a coroner; in London all of the 1470 deaths were duly certified, while in Edinburgh 3 per cent. of the causes of death were uncertified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Inspector-General of Hospitals and Fleets James Porter, C.B., Director-General of the Medical Department of the Navy, has been appointed Honorary Physician to His Majesty, in place of Inspector-General of Hospitals and Fleets Sir John Watt Reid, K.C.B., LL.D., K.H.P., deceased (dated Feb. 25th, 1909).

The undermentioned Surgeons have been promoted to the rank of Staff-Surgeon in His Majesty's fleet: Alfred James Hewitt (dated Feb. 26th, 1908), John Verdon (dated August 2nd, 1908), and John Thornhill (dated Feb. 11th, 1909).

The following appointments are notified:—Fleet-Surgeons: H. W. G. Doyne, H. W. Finlayson, H. W. Gordon-Green, and A. S. G. Bell to the *President*, additional, for three months' course at West London Hospital; and J. Chambers to the *President*, additional, for three months' course at West London Hospital. Staff-Surgeons: R. H. Mornement, W. G. Westcott, J. O'Hea, H. V. Wells, D. V. Lowndes, P. F. Alderson, and G. O. M. Dickenson to the *President*, additional, for three months' course at West London Hospital; J. Verdon to the *Kinsha;* M. P. Jones and A. W. B. Livesay to the *President*, additional, for three months' course at West London Hospital; J. Whelan to the *Adventure;* J. Mowat to the *Cressy;* A. J. Wernet to the *Iphigenia;* M. Cameron to the *Attentive* (appointment to the *Cressy* cancelled); W. B. Macleod to the *Bonaventure;* and H. Huskinson to the *Africa.*—Surgeons: M. T. Male to the Royal Marine Artillery, Eastney; P. T. Nicholls to the *Victory*, additional, for disposal; E. Cameron to the *Terrible;* S. F. Dudley to the *Commonwealth;* and G. L. Buckeridge to the *Astræa*. Civil Practitioner: H. D. Johns, to be Surgeon and agent at Hornsea and Aldborough.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Francis A. B. Daly, C.B., retires on retired pay (dated April 14th, 1909).

ROYAL MALTA ARTILLERY.

Surgeon-Captain Alfred E. Mifsud to be Surgeon-Major (dated April 1st, 1909).

SPECIAL RESERVE.

Royal Army Medical Corps.

The rank of Captain James C. McCarroll is as now described, and not as stated in the *Gazette* of Nov. 17th, 1908.

Captain Herbert E. Dalby, having assented to be transferred, is appointed an officer of the Special Reserve of Officers, retaining the rank and seniority which he held in the Militia (dated Sept. 20th, 1908).

MILITIA.

Royal Army Medical Corps.

Lieutenant James C. McCarroll to be Captain (dated August 18th, 1908).

TERRITORIAL FORCE.

Royal Field Artillery.

3rd East Anglian (Howitzer) Brigade: Surgeon-Lieutenant Richard W. Mullock to be Surgeon-Captain (dated April 1st, 1908). 1st Northumbrian Brigade: Surgeon-Major John V. W. Rutherford is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated March 31st, 1908).

Royal Army Medical Corps.

1st London (City of London) General Hospital: Major Howard H. Tooth, C.M.G., is seconded for service with the London University Contingent, Senior Division, Officers Training Corps (dated March 13th, 1909).

1st North Midland Field Ambulance: Charles Damien Lochrane to be Lieutenant (to be Supernumerary) (dated Feb. 4th, 1909).

2nd Northern General Hospital: Surgeon-Captain Reginald George Hann, from the 7th Battalion, The Prince of Wales's Own (West Yorkshire Regiment), to be Major (dated Feb. 22nd, 1909).

For attachment to Units other than Medical Units.—Supernumerary Surgeon-Lieutenant William Dyson from the 4th Battalion, The King's (Shropshire Light Infantry), to be Lieutenant (dated March 10th, 1909). Thomas Heyliger Richmond to be Lieutenant (dated August 2nd, 1909). Captain Edmond U. F. MacW. Bourke to be *Major* (dated March 1st, 1909). Cyril Howard Welch to be Lieutenant (dated March 9th, 1909).

THE CLOSE OF THE SESSION AT HASLAR.

The course of instruction of the newly entered surgeons at Haslar was brought to a close on March 30th by the distribution of prizes by the Commander in Chief at Portsmouth, Admiral Sir A. D. Fanshawe, K.C.B. The gold medal was gained by Surgeon W. A. H. McKerrow of the University of Aberdeen; the microscope was awarded to Surgeon F. G. Hitch of the London Hospital; and the silver medal and books were awarded to Surgeon J. Glaister of the University of Glasgow. The following list shows the places gained by the combined marks of the London and Haslar examinations:—

No.		Marks.	No.		Marks.
1.	Surgeon W. A. H. McKerrow	5479	7.	Surgeon A. V. J. Richardson	4123
2.	Surgeon F. G. Hitch ...	5446	8.	Surgeon F. W. Quirk ...	3993
3.	" J. Glaister ..	4763	9.	" S. L. McBean ...	[illegible]
4.	" T. R. Lloyd-Jones	4586	10.	" G. R. McGowan	3830
5.	Surgeon F. G. H. R. Black	4575	11.	" E. J. H. Garstin	3743
6.	Surgeon C. F. Bainbridge	4457	12.	" W. Mearns ...	3554
			13.	" W. Bradbury ...	3535
			14.	" A. C. Wilson	Absent ill.

Eight of the competitors held University degrees.

WEST LONDON HOSPITAL, HAMMERSMITH.—At the annual meeting of the supporters of this hospital the Duke of Abercorn, the president of the hospital and chairman of the meeting, appealed for annual subscriptions and said that there had been a large falling off in legacies and donations. The Bishop of London expressed his regret that this should be so, adding that this hospital was a kind of life-boat for that part of London and that the amount given by the King's Hospital Fund was a vote of confidence in the hospital. It is particularly desired to improve the accommodation provided for the nurses.

Correspondence.

"Audi alteram partem."

TIN IN CANNED FOODS.

To the Editor of THE LANCET.

SIR,—My attention has been drawn to a letter in THE LANCET of April 3rd, in which Dr. H. W. Wiley expresses his opinion that the results of certain experiments made by Dr. Schryver on this subject (taking known doses of non-irritant salts of tin with a view to determining the degree to which tin was absorbed from the alimentary tract) had better not have been stated because the statement may give encouragement to canners to continue improper practices.

Criticisms from Dr. Wiley on a matter of this sort deserve very careful consideration. He is chief of the Bureau of Chemical Industry in the United States, his efforts to secure the greater purity of foods are well known and appreciated in this country, while in the case of canned foods he has been endeavouring to secure the use of better grades of tin plate by American canners. Dr. Schryver and I have recently made reports to the Local Government Board—"On the Presence of Tin in Certain Canned Foods"—which include an account of the experiments referred to. The statement to which Dr. Wiley takes exception was—

> They (these experiments) do not indicate much probability of serious risk of chronic poisoning by the absorption of non-irritant compounds of tin as a result of a diet which consists largely of canned foods and is continued over considerable periods of time.

If this is objected to, I can only say that it is not the practice in this country to withhold the results of experiments which have been carefully carried out even for such laudable objects as those indicated in Dr. Wiley's letter. I should not, however, have troubled you with any comment on this matter were it not for the consideration that, coupled with your own note on our reports in THE LANCET of Feb. 6th, Dr. Wiley's letter may convey the impression that the general effect of these reports is to suggest that no attention is required in the interests of public health to contamination of foods by tin.

To avoid any such misconception by your readers who have not seen the reports themselves, I would point out that they cover a considerably wider field than the individual experiments which Dr. Wiley discusses. The latter are contained in a section of Dr. Schryver's report which deals with the evidence available as to the accumulation of tin in the body as a result of continued ingestion of small quantities of tin such as are frequently present in properly canned foods of ordinary age. But Dr. Schryver's report also includes a collection of cases in which canned foods containing unusually large amounts of tin have been associated with definite irritant poisoning, and has further indicated the extent to which the degree of contamination of canned foods by tin is governed by the character of the food canned and the time which has elapsed since canning.

The need for discouraging the use by canners of unsatisfactory tin plate, together with the importance of avoiding contamination by tin through improper methods of soldering, is given prominence in my report, which also contains suggestions as to the control which sanitary authorities in this country may be able to exercise in the matter. It appears to be established that practically all canned foods contain some tin, and that at present no positive evidence can be ascertained of harm resulting from the small quantities of tin which may frequently be taken in this way. No suggestion has been made, however, that precautions should not be taken to prevent the introduction of exceptional or excessive amounts of tin into these foods. The basis of such precautions is the employment of satisfactory tin plate and methods of soldering, and also recognition of the fact that contamination by tin increases with the age of the can—a matter of practical importance where acid foods such as canned fruits and meat extractives are concerned. I cannot, however, admit that because this is the end to be attained we should be justified in suppressing the results of experiments because these results may possibly be misused by unscrupulous people.—I am, Sir, yours faithfully,

London, April 14th, 1909. G. S. BUCHANAN.

SPONTANEOUS CURE OF THORACIC ANEURYSM.

To the Editor of THE LANCET.

SIR,—In THE LANCET of April 3rd and 10th accounts have appeared of the spontaneous cure of thoracic aneurysm. The following case bears upon these, not so much as a case of complete spontaneous cure, but one of nature's attempts at the same, where visible changes could be watched with the naked eye. About Michaelmas, 1906, a man, about 46 years of age, complained of pain in the chest and lower ribs. The pain in the chest extended through to the shoulder blades and the muscles of the back of the neck. This latter symptom had, he told me, led to a diagnosis of muscular rheumatism. When I saw him about 12 months later, he then told me that he had left off work just previously and was suffering from rheumatism in his neck. On placing the hand over the front of the chest a distinct heaving impulse was felt, and upon auscultation a double murmur. In due course a very troublesome cough set in with dyspnœa. There was no œdema or loss of voice, nor any hæmoptysis. About six weeks after I first saw him the heaving impulse distinctly pointed at the side of the sternum about the level of the third rib cartilage, and a pulsating swelling of about the size of a hen's egg made its appearance, occupying quite half of the breadth of the sternum. The man was now bad, and it seemed a question whether the aneurysm would burst through the skin or into the bronchus, and as the skin remained intact I fully expected the latter at any moment. I had him watched night and day and kept him absolutely quiet in bed and administered morphia regularly. After some weeks of expectation the man began to improve; the pulsating swelling which probably perforated the sternum without any spontaneous fracture lessened and finally disappeared, and at the present time, with the exception of a little tenderness in the third interspace to the left of the sternum, nothing remains to tell the tale. In the absence of any definite pressure symptoms or any alteration in either pulses or carotids or subclavians I considered the case to be one of aneurysm of the first part of the arch with a considerable sacculus giving the outward and visible signs. The man felt so much better that he wished to resume his ordinary occupation, but to this I would not consent.

In his present condition the patient presents a chest distinctly generally bulged and heaving on the left side, dull on percussion from the left clavicle to the right edge of the sternum. There is a soft systolic murmur all over both sides of the chest. There is a thrill over the left subclavian artery and a systolic murmur over the right subclavian and right carotid arteries. A systolic murmur is heard over the back. The right chest also heaves, but there is no tumour or thrill, and over the left side the breath-sounds are almost inaudible.—I am, Sir, yours faithfully,

JOHN J. WADDELOW, F.R.C.S. Eng.

Whittlesey, April 12th, 1909.

To the Editor of THE LANCET.

SIR,—About 30 years ago a chaplain to the forces who had been under treatment by the late Mr. Tufnell for aortic aneurysm was waiting for his train at the King's Bridge station, Dublin, on his way to the Curragh to resume duty. He suddenly leaped over the wall of the platform on to the foreshore of the Liffey, falling perhaps 20 feet. Although he fractured no bones he died from shock. He had been brought to Dr. Steevens' Hospital, and at the post-mortem examination it was seen that the solid clot which filled the aneurysm was in no way disturbed by the fall, and I very distinctly remember its smooth surface where it filled the entrance from the lumen of the artery.

I am, Sir, yours faithfully,

T. O. D.

April 12th, 1909.

THE CLINICAL VALUE OF HÆMOMANOMETER OBSERVATIONS.

To the Editor of THE LANCET.

SIR,—I regret to find that I have drawn an inaccurate inference from Professor Starling's experiment referred to in my letter in THE LANCET of April 3rd—the result of a hurried glance through his Mercers' Company lectures which had just come into my hands, and of not allowing enough for the difference between mercury and sulphate of magnesia solution. The relations between the arterial and venous pressures were: At the beginning, 11 arterial (Hg) to 14 venous ($MgSO_4$ solution); during experiment, 5 arterial (Hg) to 17·5 venous ($MgSO_4$ solution). The experiment did not show the height to which venous engorgement pressure can be raised, as the venous outflow was not arrested, it was only impeded.

The controversy initiated by Dr. Leonard Hill seems to me to have narrowed itself down to the question of the height to which *venous engorgement* pressure can rise. I have quite "grasped the fact" that Dr. Hill believes "that the venous blood pressure cannot exceed the arterial." I have, however, also grasped the fact that Dr. Hill's observations do not prove what they were thought to prove, but seem to prove, if they prove anything, the unsoundness of the proposition that venous engorgement pressure cannot exceed arterial. I entirely agree with him, however, that it is useless to continue the discussion further, but I would venture to suggest that a point has been defined where experimental physiology might be of assistance in settling the question, which is of somewhat wide interest from its relations to various phenomena which I have avoided referring to in this correspondence.

In closing the correspondence as far as I am concerned, I desire to express my appreciation of Dr. Oliver Williamson's generous recognition of the accuracy of my clinical observations. I am, Sir, yours faithfully,

Edinburgh, April 10th, 1909. WILLIAM RUSSELL.

THE PROXIMATE FACTOR OF DELIRIUM TREMENS.

To the Editor of THE LANCET.

SIR,—I cannot altogether concur with the views expressed by Dr. F. Hare in his letter to THE LANCET of April 10th. I am not in agreement with him in his statement that "delirium tremens is a complication which mainly, if not solely, affects the chronic alcoholic as distinguished from the dipsomaniac and the numerous varieties of impulsive drunkards," &c.

In my experience, and I have referred to the records of several hundreds of cases, there are many more regular or continuous drunkards than periodic drunkards, but the latter are just as liable to suffer from delirium tremens as are the former. And while the cutting off of liquor without the substitution of suitable treatment may precipitate an attack of the malady, the disorder may and does occur among those who are at the time drinking heavily, and who are not troubled with vomiting or other symptoms which denote that the digestive tract refuses to retain or to absorb alcohol. Referring to the Norwood Sanatorium report of which notice has been taken in your issue of March 27th, that institution is described as being under the supervision of an influential advisory medical committee, and it is advertised that the object of the institution is to "place the therapeutics of inebriety upon a definite scientific basis," an advertisement, by the way, which seems to reflect on the labours of such men as Sir B. W. Richardson, Dr. Norman Kerr, and many others. The admission, therefore, that in such an institution there occurred during two years some 6 per cent. to 7 per cent. of such grave complications as delirium tremens and alcoholic epilepsy is a somewhat startling one.

Dr. Hare appears to desire further clinical evidence as to the advisability of a sudden discontinuance of alcoholic liquors in the treatment of inebriates. I will give him clinical evidence. At the Dalrymple Home retreat during the past 25 years there have been admitted some 900 inebriates. During the first 15 years of this period Dr. R. Welsh Branthwaite held the post of medical superintendent, and in this period there occurred three cases of after admission delirium tremens. One occurred a few weeks after Dr. Branthwaite commenced his duties, and this case he considered with the light of further experience was a preventable one. The second case was found on the morning after admission to be suffering from double pneumonia and delirium. The third occurred during his absence on a holiday.

During the past ten years I have been superintendent here, and not a single case of delirium tremens has developed among patients after admission. I have experienced three "scares" in cases where the patient passed a restless first night and when, in the morning after admission, the condition appeared to be threatening, but in each case I have been fortunate enough to get the patient to sleep in the early afternoon and have had no further trouble.

I have had to treat only one case of alcoholic epilepsy, this occurred some four months after admission of the patient. He had indulged in beer when on parole, and in his case quite a small quantity of liquor produced this condition. For this absence of complications I am largely indebted to Dr. Branthwaite, for I profited by his experience. All of Dr. Branthwaite's cases and all of mine during my first eight years were treated by absolute withdrawal of liquor. During the past two years I have very occasionally given to patients some brandy or whisky during the first day or two if they particularly desired it. This I have done not with any idea of preventing complications but merely as a placebo. A certain amount of spirit has been given in the form of pharmaceutical preparations, in spiritus ammoniæ aromaticus, for instance, but to the person who is accustomed to take alcohol by the pint or more daily a few drachms of spirit during the 24 hours is a negligible quantity.

Judging by the experience gained at the Dalrymple Home Retreat I am of opinion that delirium tremens, in the absence of surgical injuries or a disease such as pneumonia, is an avoidable complication when the patient can be kept under observation, and that under the same conditions those patients recover more rapidly whose liquor is stopped at once. I have admitted a few cases where delirium tremens had already just commenced, but with the exhibition of bromides in large doses and of hypnotics, among which chloral and paraldehyde are the most useful, sleep has been induced within 12 hours of admission. So that I cannot agree with the view which Dr. Hare is inclined to favour, that the best treatment of this condition is to withhold practically all drugs. The condition, in my opinion, requires energetic drug treatment.

I am, Sir, yours faithfully,
F. S. D. HOGG.

Dalrymple Home Retreat, Rickmansworth, April 13th, 1909.

HILLYER *v.* THE GOVERNORS OF ST. BARTHOLOMEW'S HOSPITAL.

To the Editor of THE LANCET.

SIR,—In reference to your report and comments on the above case may I crave the hospitality of your columns to tell all who may be interested that my solicitors have entered an appeal against Sir William Grantham's decision? By the help of friends I hope to make this a test case and obtain a legal ruling as to the liability of hospitals in such situations, for it must be admitted that this question is of grave importance not only to the authorities of hospitals but also to the general public who support these charities. May I add that I went into court under the impression that a jury would hear *all* the evidence and would be permitted to express their opinion? I am, Sir, yours faithfully,

London, April 12th, 1909. WILLIAM H. HILLYER

A CASE OF EXCISION OF THE SCAPULA.

To the Editor of THE LANCET.

SIR,—I was very pleased to read the letter of Mr. R. P. Rowlands in THE LANCET of Jan. 16th, calling my attention to a few discrepancies in my article on the above subject which was published in your journal of Jan. 9th.

In reply, I might state that my patient was able to abduct his arm voluntarily to an angle of 45 degrees, but on forced abduction to any degree beyond this limit he evinced much pain; but Mr. Rowlands's case was able to abduct his arm to a right angle only. It was originally the typist's error, when "90 degrees" were substituted for 45 degrees. Though the difference in the range of abduction in these two cases is only 45 degrees, yet I admit that every extra range of movement must certainly be of material advantage to any person. But the two cases under discussion are quite unlike each other: one was an enchondroma and the other a rapidly growing sarcoma. My subject was also able fully to flex, extend, and adduct his shoulder-joint, but internal and external rotation were only possible to a [illegible] must be remembered that active and passi[illegible] not commenced till the twenty-ninth day [illegible] owing to an attack of dysentery. Had these [illegible] commenced earlier he would have had a [illegible] abduction and internal and external rotation [illegible] that the utility of the joint had not been impaired I meant that the patient had a joint fairly strong and mobile to enable him to carry on his work as a coolie. But it was never meant that his joint was as good as the normal one.

With reference to my objections to leaving the glenoid socket and the coracoid process in one mass in innocent growths of the scapula, while admitting that the radiograms and the photographs support Mr. Rowlands's contention, I think it is not wise to draw any definite conclusions from the results of a single case. We must collect more materials and compare their results before we make any definite statements. While I hold the above view for the present, I must candidly admit that Mr. Rowlands's case is very instructive, and I [illegible] a suitable case should [illegible] the reasons mentioned [illegible] ticle published in the [illegible], 1908.

I am, Sir, yours faithfully,

H. B. MYLVAGANAM.

Bangalore, South India, March 13th, 1909.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

Annual Report of the Royal Victoria Infirmary.

THE Royal Victoria Infirmary was established in the year 1751 and the present report, dealing with the work of the infirmary for the year 1908, is the 158th since the foundation of the institution. The house committee point out that during the year the hospital was opened to its fullest extent. It will be remembered that the new buildings were opened by the King in July, 1906, and the work of the institution has gradually been transferred from its original home on the Forth banks. The occupation of the whole of the accommodation afforded by the buildings on the Moor Edge has, of course, led to a large increase in the number of patients treated and also to an increase in the ordinary expenditure. It is satisfactory to note that coincidently with an increase in the ordinary expenditure there has been an increase in the ordinary income, but the latter has not been sufficient to keep pace with the increased cost, so that the excess of expenditure over income is greater than it was in previous years. The house committee note that the cost per in-patient is less than in 1907 or 1906. "In order to meet the criticism that many patients are admitted into the hospital without sufficient care being taken to ascertain whether they are such persons as are entitled to receive the benefit of the charity, the house committee have appointed a subcommittee to consider the admission of patients. ...... During the present year they hope to collect figures and information to enable them to recommend some workable scheme which will solve to some extent this extremely difficult question." During the year several important changes have taken place on the staff. In August the resignation of Professor George Redmayne Murray was accepted with much regret and the house committee say that "during his tenure of office he has been distinguished for his courteous demeanour, profundity of knowledge, and devotion to the interests of the institution, and as a consequence has enjoyed the confidence and approbation of the committee and his colleagues and the gratitude of his patients." As I have already stated, Dr. Murray was appointed an honorary consulting physician to the infirmary on his accepting the invitation of the University of Manchester to become its professor of medicine. In March it was decided to appoint four assistant physicians instead of two as heretofore, and in November an honorary assistant was appointed to the ophthalmic department. As regards the finances of the infirmary, the total ordinary income in 1908 was £25,552 17*s.* This sum is larger than the figure for 1907 by £2683 0*s.* 10*d.* The subscribed income amounted to £21,588 2*s.* 1*d.*, which exceeded the income of 1907 by £3868 11*s.* 8*d.* The most [illegible] fact, probably, with regard to income is the [illegible] the workmen's subscriptions. In 1904 the [illegible] contributions totalled £4762 13*s.* 2*d.* In 1908 [illegible] was trebled and amounted to £14,219 12*s.* 3*d.* The [illegible]dinary expenditure amounted to £30,892 17*s.* 6*d.*, [illegible]xceeds the income for the same period by £5340, and is greater than the ordinary expenditure in 1907 by £3625 13*s.* The deficit at the end of the year 1908 is greater than the deficit at the end of 1907 by £942 12*s.* 2*d.* The cost per occupied bed, calculated on the total ordinary expenditure, was in 1908 £78 11*s.* 5*d.*, which is noticeably less than in 1907 and in 1906, when, on the same basis, the figures were £81 5*s.* 10¾*d.* and £81 5*s.* 1½*d.* respectively. When calculated upon the total ordinary expenditure, less the cost of out-patients and casuals, the cost per occupied bed was, in 1908, £74 14*s.* 6*d.*; in 1907, £77 5*s.* 10½*d.*; and in 1906, £75 17*s.* 7¾*d.* The number of patients admitted to the wards during the year was 7584, being 1103 more than in 1907, and the average daily number in the wards was 393·2, whereas in 1907 the average was 335·4, and in 1906, 251·8. The [illegible] on any one day was 425, which [illegible]er which can be accommodated. [illegible] committee state that it is their endeavour, so far as possible, to limit the number of occupied beds to 400 "in order that a margin of 25 may be kept available for any emergency that may arise." The average length of stay of each in-patient is greater than in 1907 or in 1906, the figures being 19·16 days in 1908, 18·9 days in 1907, and 18·7 days in 1906. The number of out-patients and casuals was also increased. In the year under review 37,324 out-patients were attended to and 23,468 casuals, the total attendances in the out-patient department (indoor and outdoor) being 104,725.

April 13th.

WALES.

(FROM OUR OWN CORRESPONDENT.)

Poisoning by Zinc.

POISONING by zinc is sufficiently rare to merit record when instances do [illegible] on the body [illegible] short period [illegible] chipped potatoes purchased at a shop in the town. The county analyst found traces of zinc in the contents of the girl's stomach, and the same metal was also found in samples of oil used for cooking the potatoes and in the potatoes themselves. The cooking-pans were coated with an alloy containing zinc, so that it is probable the action of the oil together with the process of cleansing the pans had enabled the zinc to become incorporated with the potatoes.

The Question of a Public Slaughter-house for Merthyr.

A suggestion to provide a public slaughter-house in Merthyr appears to have caused some alarm among the butchers of the town. At a meeting of the local Master Butchers' Association recently held the secretary of the National Federation of Meat Traders' Associations declared that the inconvenience, the increased expenditure, and the risks involved in the use of a public abattoir had resulted in the firm determination of master butchers to go to the dead meat market rather than use a public slaughter-house. He also stated that wherever these existed they were white elephants and involved the ratepayers in a considerable financial outlay for which there was no adequate return. This assertion is not quite in accordance with statements which have been made in recent literature on the subject. In Mr. Christopher Cash's work [1] a list is given of public slaughter-houses which, in reply to his inquiries, were stated to be a financial success. At Belfast the profit is said to be £800 per annum, and at Edinburgh over £900, while in several places the absence of any profit on the undertaking is attributed to the existence of private slaughter-houses which cannot be got rid of.

Glamorgan Water Board.

The Bill which is being promoted in the present session of Parliament by the Glamorgan county council, having for its main object the formation of a water board for the county, contains provisions empowering the board to purchase existing water undertakings. The largest of these in the county is that owned by the Pontypridd Waterworks Company which supplies the town of Pontypridd and about two-thirds of the Rhondda valleys. The principal gathering grounds of the company are at the head of the little Rhondda valley where there are storage reservoirs with a total capacity of 220,000,000 gallons. The supply has for some years been unsatisfactory, and one result of an action in the High Court brought by the Rhondda urban district council against the company in 1907 was an undertaking on the part of the latter to obtain Parliamentary powers for the construction of reservoirs in Breconshire. These powers were secured last year, and it is stated that terms have already been arranged for the transfer of the existing works and of the powers to construct others from the company to the water board in the event of the Bill of the county council becoming law.

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[1] Our Slaughter-House System, by C. Cash, B.A. (George Bell and Sons, 1907).

Cardiff Medical School.

Although it is not at present possible to take the complete medical curriculum at the Cardiff College, the number of students from the Medical School who have already become qualified is 123. A great stimulus to the establishment of a Faculty of Medicine will no doubt be given by the recently issued report to the Treasury of the committee appointed to inquire into certain matters connected with the University of Wales and the Welsh University Colleges. Sir Donald MacAlister, President of the General Medical Council, who was a member of the committee, has appended a note to the report which has special reference to the Cardiff Medical School. He points out that the large international shipping trade of Cardiff makes it a natural centre for the study of tropical diseases, and he suggests that if a special school were organised in connexion with a completed medical department of the Cardiff College students and practitioners from other parts of the country would be attracted to it. He also expresses the opinion that Cardiff possesses all the requisites for a complete school of medicine, though he is careful to say that new buildings are a essential requisite, an assertion which no one will controvert.

Insanitary Structural Defects on New Vessels.

For several years past Dr. J. Howard-Jones, the medical officer of health for the borough, in his annual reports to the Newport port sanitary authority, has drawn attention to the hygienic defects which are to be found in quite new vessels, and the inspections which he made during last year disclose little, if any, improvement notwithstanding the fact that the vessels reported upon had been passed by the Board of Trade. In one instance the crew's quarters are described as little better than a hovel, so dark and so cut up into angular spaces that cleanliness was almost impossible. Such a dwelling, says Dr. Howard-Jones, would never be permitted by any sanitary authority to be occupied as a human habitation ashore. He further expresses the opinion that it is not at all surprising to find the type of man in our merchant service degenerating when sailors are compelled to live under such unsatisfactory conditions. From the record of nuisances and sanitary defects found during 1908 it appears that they were discovered in 13 per cent. of the 2593 British ships inspected and in 20 per cent. of the 994 foreign vessels. This proportion of defective conditions is higher than has been found in previous years both as regards British and foreign ships.

April 13th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow Maternity Hospital.

AT the annual meeting of the subscribers to the Glasgow Maternity Hospital the secretary of the institution showed that during the year in the various departments of the hospital the cases treated reached the large number of 4384. This is an increase of 210 cases in the indoor, 336 in the outdoor, and 98 in connexion with the Western Branch. Since the last annual meeting the new hospital has been opened and there is no doubt that it has the appreciation of the public and the confidence of the medical profession. It is satisfactory to note that the number of students enrolled has increased from 86 to 154 and that the pupil nurses have increased from 113 to 140. The financial statement shows that the expenditure for the year has exceeded the annual ordinary income by £1750.

Glasgow and West of Scotland Coöperation of Trained Nurses.

The sixteenth annual report of this association has just been issued and presents many points of interest. A coöperation such as this when well managed has proved a great boon to medical men and the general public of the West of Scotland, and has at the same time secured to nurses on the staff regular employment, adequate remuneration, and the advantages of a central home. The number of the nurses on the roll is 178. The number of cases attended during the past year was 1899, and the amount earned by the nurses £11,538. Since the establishment of the association in 1894 18,139 cases have been nursed and £108,039 have been earned. The system on which the scheme is worked is that at the termination of a case the nurse collects the fee and pays to the lady superintendent a percentage thereof, which is placed to the credit of a common fund out of which the yearly working expenses of the coöperation are defrayed. In the early years of the association 10 per cent. was contributed and this was afterwards reduced to 7½ per cent. During the year now completed the percentage has been raised. Nurses joining the coöperation pay 10 per cent. for the first two years, and after the first two years 7½ per cent. Nurses who have been seven years in the coöperation have the percentage reduced to 5 per cent. Nurses residing in the home when off duty make a quarterly payment of £1. which entitles them to sleeping-accommodation, board being charged at the rate of 12*s.* 6*d.* per week or 2*s.* 6*d.* per day. A sick fund has just been inaugurated in connexion with the association and to this all the nurses contribute £1 per annum, with the exception of four who are already members of the Royal National Fund. A bazaar was held last year to help this sick fund and by means of it the sum of £3523 was raised.

Pathological Laboratory for Asylums in the West of Scotland

A movement has been initiated for the establishment of a pathological laboratory in the West of Scotland on the same lines as the one at present in Edinburgh for carrying out pathological work in connexion with the asylums in the district. It is evident that the establishment of such an institution will undoubtedly be in the interests of medical science, but also in the interests of the patients in these asylums. The cost of carrying it on is estimated at £450 per annum, of which £300 would go in salary to the pathologist, the other £150 being applied to the various requirements of the institution. The committees of Woodilee and Gartloch Asylums under the Glasgow Lunacy Board have agreed to give an annual contribution of £50 each, and the directors of the Royal Gartnavel Asylum have promised to contribute handsomely to the scheme. It is expected that the remainder will be made up by the various other authorities interested.

The Municipalisation of the Sidlaw Sanatorium.

There is every prospect that the municipalisation of the Sidlaw Sanatorium will not be agreed to without a severe struggle. The matter was up for discussion at a meeting of the Harbur Trust on April 5th, when it was moved that the board resolve to oppose the town council acquiring the sanatorium. The Lord Provost, in reply, denied that the matter had been rushed. The ratepayers had not only been consulted but they had voluntarily sent representatives to urge upon the town council the advisability of acquiring the sanatorium. It was not proposed to treat more than 150 cases at any time. They were advised by their expert that in a year or two the city would be compelled to provide hospital accommodation for consumptives. They had an offer from the directors of a building that cost £25,000 and the offer of additional ground on very favourable terms. He thought that it would have been a mistake on the part of the council not to have jumped at the bargain The motion was carried by 18 votes to 3. The Chamber of Commerce at its monthly meeting on April 6th resolved to oppose by counsel and agents the acquisition of the sanatorium by the town council on the following grounds—viz., that due consideration had not been given to the financial burdens which would thereby devolve upon the community; that no reasonable opportunity had been afforded to the ratepayers to determine as to the advisability of such a step; and that sufficient information had not been furnished of the intentions of the town council in regard to the development of a scheme of such immense possibilities The secretary was instructed to intimate this resolution to the Harbur Trust and other public bodies with a view to joint action. Resolutions protesting against the scheme have been passed by several of the ward committees. It is believed that the Caledonian and North British Railway Companies will also take action. The Trades Council has unanimously decided to support the action of the town council.

University of Aberdeen: Graduation.

The spring graduation ceremony at the University of Aberdeen took place on April 6th in the Mitchell Hall, Marischal College. Principal Lang has been laid aside with illness for some weeks and Lord Strathcona came specially from London to preside in his place. This is the first occasion for a long period of years that a chancellor has fulfilled a like duty. Six gentlemen received the degree of M.D.; one that of Ch.M., seven that of D.P.H., and 37 those of M.B., Ch.B. At the close of the graduation ceremony Lord Strathcona delivered a short address on patriotism.

April 13th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Tuberculosis Exhibition at the Rotunda Hospital, Dublin.

A TUBERCULOSIS Exhibition will be held in the Rotunda buildings on April 20th to 22nd under the presidency of Her Excellency the Countess of Aberdeen. Preliminary meetings for the purpose of making arrangements were held in the Rotunda on the 5th and 7th of this month. At the former it was proposed by Mr. Fletcher and seconded by Mr. E. H. Tweedy:—

[illegible] f the exhibition [illegible] National Health [illegible] power to add to [illegible]

Dr. M. F. Cox and Mr. John Mooney were appointed honorary treasurers, Dr. T. Donnelly, Dr. E. M. Fannin, and Mr. T. C. Harrington, M.P., honorary secretaries, and at the following meeting of the executive committee (on April 7th) the various sections of the exhibition were allocated to [illegible] follows: Pathological Sec- [illegible] Veterinary Section: Mr. [illegible] J. Wilkinson. Statistical Section: Sir R. E. Matheson. Literature Section: Dr. A. G. Boyd. Appliances Section: Sir W. J. Thompson. Hygiene Section: Mr. George Fletcher, Dr. R. J. Rowlette, and Professor F. T. Heuston. Food Section: Professor W. H. Thompson. Domestic Science Section: Mrs. Rushton, Miss Fletcher, and Miss McNeill. Her Excellency then announced that Dr. E. W. Hope, superintendent medical officer of health of Liverpool, would deliver a lecture on Tuesday, April 20th, and that Dr. Philips would lecture on the following evening. It was also decided that popular lectures should be delivered every evening, and that demonstrations of exhibits should be given frequently during the day.

Benn Ulster Eye, Ear, and Throat Hospital.

From the annual report presented at the meeting of the supporters of this institution on April 8th it appears that 3539 new patients were treated during 1908, while 340 were taken into the wards. Over 60 operations for cataract were done during the year. The debt on the hospital has been increased to £244 5*s.* 5*d.* Special reference was made to the much regretted death of Dr. R. Allen, one of the assistant surgeons, in whose place Dr. Henry Hanna has been appointed; while Dr. Isaac A. Davidson and Dr. J. McCredy have been appointed clinical assistants and Dr. F. C. Smyth anæsthetist.

The Belfast Health Commission.

The Local Government Board (advised by the Law Officers of the Crown) has demanded from the city corporation of Belfast the sum of £1431 10*s.* 10*d.* for the cost of the late Health Commission. Two counsel advise the corporation that it is not liable for the sum of £608, being the amount paid respectively to the chairman and two other members of the Commission who were not officials of the Irish Local Government Board. The matter is under consideration; the two counsel representing the corporation, in the meantime, are to look into the advice of the Crown law officers, as given to the Local Government Board.

Overcrowding of Ulster Asylums.

From the tenth annual report of the Monaghan and Cavan Lunatic Asylum it appears that there were 858 inmates (460 men and 398 women). 179 were admitted during the year, and the total number under treatment during the year was 1030. The numbers remaining at the close of the year were 33 more than those in the house at the close of the previous year. The new detachable block to accommodate 120 patients has been occupied since April last, and even with this accommodation utilised there are still 89 patients in excess of the legitimate space. At the monthly meeting of [illegible] ylum, held on April 8th, the [illegible] accommodation to relieve [illegible] as again under consideration but was adjourned.

April 13th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Foreign Bodies Removed from the Œsophagus.

AT a meeting of the Society of Medicine held on March 27th M. Guisez showed 18 foreign bodies which had been removed from the œsophagus by œsophagoscopy, such as pieces of bone, fish bones, coins, buttons, and at least five artificial tooth plates. Thanks to instrumental perfection and the employment of dilating tubes, the extremity of which can open and protect the walls of the œsophagus at the moment of extraction, operation during the last two years has been invariably successful.

Poisoning by Subnitrate of Bismuth.

M. Léon, at a meeting of the Hospitals Medical Society held on March 27th, drew attention to certain risks which might occur from the use of bismuth subnitrate as laid down by the new Codex. The subnitrate of the Codex of 1884 contained 17 per cent. of nitric acid, while that of the new Codex contains 24 per cent. If these two different preparations of bismuth are acted upon by a hyperacid gastric juice, the bismuth salt from the new Codex forms a solution of nitric acid twice as strong as that from the old Codex. M. Léon suggested the employment of a neutral subnitrate prepared by washing the acid subnitrate in boiling water containing some carbonate of sodium. The salt thus obtained only contained some 4 per cent. of nitric acid.

Injections of Strophanthin.

At the same meeting of the same society M. Vaquez and M. Lecomte communicated a paper in which they said that they had obtained excellent results in cardiac insufficiency by injecting one milligramme of strophanthin into the veins every two or three days. The asystoly lessened, the œdema disappeared, copious diuresis was set up, and the dilated heart returned to its normal dimensions. While recognising the dangers which might occur by this method of medication, the two observers said that it should not be neglected altogether, but that it should be employed only in cases where other drugs have been without results. Only very small doses should be used and in case of renal insufficiency the condition must not be due to a definite affection of the kidneys.

The Use of Cerebral Extract in Nervous Maladies.

At a meeting of the Academy of Medicine held on March 30th M Page said that he had been using extract of cerebral substance in cases of nervous disease. Constantin Paul had already employed this method but with very variable results. He used an extract of the whole brain of the sheep. M. Page uses an oily extract (*extrait gras*) which according to him contains an antitoxin. The effect of injecting this substance is to influence the arterial pressure and to diminish the amount of phosphates excreted in the urine. At the same time the appetite of the patient improves, he puts on flesh, and his strength is increased. In 20 cases in which this method of treatment was used, mostly those of neurasthenia, the length of treatment occupied only half the time of the usual methods.

The Treatment of Gout by Puncture of the Articulations.

At a meeting of the Therapeutical Society held on March 24th M. Lumière and M. Gelibert communicated a paper in which they said that for the last five years they had systematically used puncture in the case of all large gouty joints which were the seat of an effusion, more especially in the knee. They had obtained the following results. On the one hand the pain rapidly disappeared, the temperature fell to normal, and the attack was notably shortened; on the other hand, the fluid drawn off contained no appreciable quantity of uric acid or of urates. It was, however, extremely poisonous and brought about a marked rise in the temperature. These observations put into the hands of the physician a new curative method at once simple, rapid, and efficacious, and they introduced quite new ideas into the pathogeny of gout, especially as concerns ideas held up to the present as to the rôle played by uric acid in the gouty diathesis.

A Parasite of the Vine and Cancer.

At a meeting of the Academy of Sciences held on March 29th M. d'Arsonval related some interesting experiments originally begun by Charrin and carried on by M. le Play. By injecting a certain parasite from the vine into the peritoneal cavity of animals M. le Play found that he brought about the growth of tumours the aspect of which closely resembled that of a cancerous growth. The parasite localised itself in the liver. If it were injected into the blood-stream its vitality was diminished, but sooner or later it always infected the liver, which appears to be its chosen habitat.

Opium in Madagascar.

At the instigation of the Governor-General of Madagascar the Colonial Minister has just issued a decree for strictly regulating the importation, sale, or storage of opium in that colony. A decree of August 31st, 1908, had already forbidden the existence of opium-smoking dens, but it was found to be useless unless the authorities could exercise some control over the importation of the drug.

Shakespearian Toxicology.

For the most part the heroes and heroines of Shakespeare, when they do die, perish by a violent death, and Dr. A. Cartaz has been studying the methods of these deaths. The ghost of Hamlet's father revealed to his son that he, the father, had died from *jus de jusquiame* (juice of cursed hebenon). Dr. Cartaz argues that henbane juice, unless some other and corrosive substance is added to it, could not have such a fatal effect. Moreover, whatever hebenon may mean, whether it be henbane or yew or broom, poisoning by way of the ear is hardly possible, and so Dr. Cartaz says that (to produce the effect described) the poison must have been given either at the same time or before by the mouth. Possibly the word hebenon is used in the generic sense of any poison bringing about confusion and dulness of the senses. This explanation, however, does not help us to understand how the poisoning can be produced by dropping it into the ear. As regards the slumber of Juliet Dr. Cartaz thinks that Friar Lawrence used mandragora to put that heroine to sleep, but he is astonished that the slumber lasted so long, and he thinks that some hypnotic influence must be invoked in addition to the poison.

April 12th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Infective Agent of Trachoma.

Professor Greef of Berlin, writing to the *Deutsche Medizinische Wochenschrift*, reports that he has detected the infective agent of trachoma. These bodies are small and round, much smaller than the smallest micrococci hitherto known. They may be stained very strongly after Giemsa's method but not after Gram's method, and appear sometimes more violet, sometimes more reddish. They are surrounded by a distinctly light circle; and under the highest powers it is seen that they are not circular but more oval like bacteria with rounded edges and they tend to congregate like diplococci. In the later stages of the disease they are present in crowds within the cells. They were found in the follicle, both within and without the cells, in the epithelium, and in the discharged fluid. By using other diseases of the eyes and normal eyes as controls it was ascertained that the above bodies were not present except only in trachoma. The demonstration of these bodies is difficult and the procedure described by Professor Greef is rather complicated. Fresh cases without previous treatment must be taken, the bodies in question being no longer visible after some days' treatment by caustics. They have by that time disappeared from the superficial layers of the tissues but continue to be present within the deeper layer where they increase and produce relapses.

Diabetes in Infants.

At a recent meeting of the Verein für Innere Medicin Dr. Langstein read a paper on Diabetes in Infants. He showed a baby eight months old without any apparent morbid condition. The child was quite well till the age of six months when the temperature rose and slight digestive troubles developed. The mother afterwards remarked that the napkins moistened by the baby's urine became stiff, and that the child had an enormous thirst. On examination the urine showed 3·5 per cent. of sugar which was not galactose but glucose, so that the case proved to be really diabetes. The daily quantity of urine was on an average 880 grammes, containing 66 grammes of sugar. The patient was accordingly fed by a milk specially prepared as follows. The casein and fat of one and a half litres of ordinary milk were precipitated by rennet essence, the sugar was then removed by washing the coagulated mass, and the latter was then pressed through a fine sieve into a mixture of 200 grammes of whey and 1300 grammes of water. The mixture obtained in this way contained only eight grammes of sugar, but much fat and albumin, and saccharin was added to make it palatable. By the administration of the above mixture the daily quantity of sugar in the urine decreased to eight grammes. Concerning the etiology, it is remarkable that the mother had given to the baby since the sixth month daily 200 grammes of sugar. Cases of diabetes in infants are very rare; and many of the instances described in the medical literature are probably not to be trusted.

The Relation between the Hypophysis Cerebri and Ovaries.

Dr. Thumim recently reported the case of a woman in whom after irregularities and eventually complete cessation of menstruation the first symptoms of acromegaly developed. The patient, a singer, had lost her voice, but on laryngoscopical examination only an increase of the thyroid cartilages was observed. An acromegalic condition developed, [illegible] alteration of the sella turcica was [illegible] cerebri was administered in tablet [illegible] t the disease has not of late progressed. The ovaries were found to be atrophic, and Dr. Thumim suggested that this atrophy had produced a hypertrophy of the hypophysis cerebri leading to acromegaly.

The Medical Women of Berlin.

The medical women of Berlin have recently formed an association of their own. They intend to establish a hospital of which the staff will consist exclusively of women and include wards for the indigent classes, together with paying wards for well-to-do patients. The number of medical women has increased in Berlin since women were admitted to the State examination and so obtained an opportunity to become duly qualified. Nearly every one of the numerous medical societies of Berlin now includes medical women although their active part in the proceedings is not marked. In the recent medical directory 26 medical women are registered in Berlin apart from those ladies who previously to the admittance of women to the German examination have taken their degree in Switzerland and practise under that diploma.

April 12th.

DONATIONS AND BEQUESTS.—Mr. Conway Rose of Chard, Somerset, has forwarded £1000 to the committee of the Royal Alexandra Hospital, Rhyl, towards the building fund for a new wing.—The trustees of the late Hon. Sheriff Anderson have intimated to the board of the Hawick Cottage Hospital that they will give a donation of £500 for the building and furnishing of another private ward to be named the Anderson Ward.

Obituary.

ARTHUR GAMGEE, M.D. EDIN., F.R.C.P. LOND., F.R.S.,

EMERITUS PROFESSOR OF PHYSIOLOGY, VICTORIA UNIVERSITY, MANCHESTER.

MANY friends of Dr. Arthur Gamgee, both in this country and abroad, where he was widely known, will hear with the deepest regret of his unexpected death in Paris on March 29th. This was due to congestion of the lungs following an attack of influenza. His journey to Paris, destined to end so sadly, was undertaken in order to meet his life-long friend Professor Hugo Kronecker of Berne, who, on finding him so ill, arranged for his removal into the nursing home where he died, though fortunately not before his wife and daughters had reached Paris. He was in his sixty-eighth year.

Dr. Arthur Gamgee was born in 1841 in Edinburgh, and was the younger son of Joseph Gamgee, a distinguished veterinary surgeon and pathologist, whose researches, particularly those with regard to rinderpest, attracted a large amount of notice both in England and on the Continent. His elder brother, Joseph Sampson Gamgee, whose life-work came to be so closely associated with the Birmingham General Hospital, was an exceptionally brilliant man, a facile linguist, a fluent speaker, a lucid writer on medical subjects, who acquired a great surgical reputation, especially by the introduction of improved methods for the treatment of wounds in the days when even the word bacteriology was unknown. This brother died in his fifty-ninth year in 1886.

Educated at University College School, Arthur Gamgee was entered as a medical student at Edinburgh University. Here at the outset of his life he showed a special interest in physiological work, particularly in physiological chemistry, as is evidenced by his inaugural thesis on "Contributions to the Chemistry [illegible]
the medical [illegible]
a gold medal [illegible]
work, may be found in the *British and Foreign Medico-Chirurgical Review*.[1] From 1863 to 1869 he held an appointment under Dr. Maclagan, who was professor of medical jurisprudence in the University, but his natural leanings were towards scientific research, and numerous papers, of which the most interesting are those on the Action of Nitrites on Blood (1868), and with J. Dewar on the Constitution and Physiological Relations of Cystine (1871), gave evidence of his marked ability to investigate abstruse problems in physiological chemistry. In the first of these papers he described elaborately every important point in the history of methæmoglobin, its crystalline shape, its power of absorbing and retaining oxygen—facts rediscovered years later by Hüfner. Gamgee was only mistaken in not recognising that other agents besides nitrites exerted the same action on hæmoglobin. The research on cystine was no less important, though the actual constitution determined for this amino-acid has undergone some modification by the subsequent researches of Friedmann. In 1872 Dr. Gamgee was elected to the Royal Society. His age at that time was 31, and a year later he became the first Brackenbury Professor of Physiology in the Owens College, Manchester. His connexion with Manchester, during which time he shared the work of those who were actively striving for a charter which should convert the College into the Victoria University, lasted for 12 years, and it is during this period that Gamgee, by his enthusiasm, his tireless energy, and sound judgment of the real relations which should subsist between those who teach and those who learn, accomplished what will prove to be the best remembered work of his life. As dean it fell to him to found the school in his own subject, and his output of original work in physiology and pharmacology during that time has never since been approached. His own attitude as a teacher may be gathered from his introductory address in 1883, 22 years after the foundation and ten years after the removal of the College from Kay-street to the present site, where he says that "popular courses of lectures cannot in any sense constitute academic teaching. ...... But the governors and professors were imbued with the spirit that the College which they were fostering must above all and before all be a place where learning is studied and taught for its own sake; and that in order to exert that influence, which great academic institutions have exercised in the past, it must be not merely a place where routine teaching is carried out, but a centre in which learning is added to by the labours of those who teach —a place of research, a centre of light. No university ought to be imbued with a purely utilitarian view of education."

Looking back on that period it can be clearly seen that Owens College numbered among its professors men who made the College famous all over England—Roscoe, Balfour Stewart, Stanley Jevons exerted an immense influence throughout the country. In our own quieter times it is difficult to realise that these men were, together with Huxley and Tyndall, the real pioneers who unceasingly laboured, and successfully laboured, to place the study of science on a level with the teaching of the older universities. In this connexion it is worth remembering that not only by the publication of primers and elementary text-books, but by the courses of evening "Science Lectures for the People," which were almost entirely due to Sir Henry Roscoe, those who had the best interests of science at heart were actually engaged in slowly convincing a hostile majority that the knowledge obtained by experimental work was of vital importance to the country. These lectures, initiated in 1866, continued until 1880 and were given by Huxley, Tyndall, W. K. Clifford, W. Pengelly, Spottiswood, Sir Norman Lockyer, and others, as well as by those more closely connected with the Owens College. The real value of this work, in which science instruction was given in a plain but scientific form, can scarcely be overestimated, for the object of these popular lectures was to arouse an interest in the study and pursuits of science, rather than to convey a large amount of information. Indeed, at that time science had to fight both for existence and recognition.

This short tribute to those to whom the early success of the Owens College was due enables us to see clearly the environment of Dr. Gamgee while at Manchester. The work by which he will be chiefly remembered was done during those years and with the rest he loyally worked for the success of his College. The science of physiology in this country was practically non-existent until 1873. It is quite true that there were physiologists, and some of these of European reputation, but the subject was neither taught nor studied in the only way that is possible, by experimental methods. Prior to this date there was a single professor of physiology in England. A history of the rapid growth of this science, the British school of which now takes rank with that of any on the Continent or in America, cannot be given here, but two publications—the "Handbook of the Physiological Laboratory," by Brunton, Klein, Burdon Sanderson, and Michael Foster, which appeared in 1873, and in particular the "Text-book of Physiology," by Foster in 1877—completely revolutionised the existing conceptions as to the scope and value of this science. The teachers of physiology at Cambridge, University College, London, and the Owens College were really the three men who by their influence primarily attracted students to their laboratories in which the real study of physiology was carried out. Instead of vague unmeaning speculations which filled page after page of older books, the subject, in the hands of Burdon Sanderson, Foster, and Gamgee, under the influence of Carl Ludwig, Kühne, and Hoppe-Seyler, became a laboratory study, and one which it was clear could only be advanced by the application of accurate chemical and physical methods to physiological problems. In this development Dr. Gamgee took his part, and rapidly showed that he possessed a richly endowed mind, a scholarly interest in his subject, and an exceptional knowledge of physical and chemical methods. As Brackenbury professor, as Fullerian professor of physiology in the Royal Institution from 1882 to 1885, as a frequent lecturer in Manchester and in London to popular audiences, his energy and enthusiasm found full play. In 1882, the year in which science had to suffer the loss of Charles Darwin, and, from an accident in the Alps, of F. M. Balfour, Dr. Gamgee was president of the Biological Section of the British Association which met at Southampton, where Dr. C. W. Siemens succeeded Lord Avebury as president. It was the year that the late Professor Moseley lectured on "Pelagic Life" and Lord Kelvin on "Tides and Tide Calculating Machines."

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[1] London, 1864, vol. xxxiii.

Dr. Gamgee chose for his address the Growth of our Knowledge of Secretion, and it is certainly one of the most erudite and masterly expositions of this part of physiology which have ever been written. It fell to his lot to speak of the loss of Darwin and also of Balfour, who, like Mayow, Bichat, Gerhardt, and W. K. Clifford, died before he was 40. In this address we also learn of the influence which John Goodsir exercised upon his early work, a teacher for whom he had the warmest affection. It has long ceased to be possible to judge of the religious belief of any man by his manner of life or even his attitude towards orthodox religion, and it is therefore of interest to quote from this address where Dr. Gamgee refers to Darwin: "It is impossible to study the writings of Darwin, and especially that one in which he treats of the 'Descent of Man,' without recognising an undercurrent of reverent sentiment which in one or two places finds expression in words telling us that man differs from the animal creation if not in physical characteristics which cannot be bridged over, at least in moral attributes and in 'the ennobling belief in God' by his power of forming that conception of the Deity which to use Darwin's own words is 'the grand idea of God hating sin and loving righteousness.' "[2] To quote further from this address, which contains so much that enables us to understand Dr. Gamgee's views, after pointing out that Goodsir was mistaken in some of his ideas as to the function of cells in the process of secretion, he pays a tribute to his teacher whose mind he regarded as resembling that of Johannes Müller. He says: "Goodsir was a master who, if judged by the low standard of fitness to instruct the great majority of his pupils in such a manner as to enable them to successfully pass examinations, would occupy no exalted position. He possessed, however, the far rarer power of instilling into the minds of the best of his pupils that love of original inquiry and that deep regard for truth which are the chief incentives to all scientific research of any value."

It was during his years at Manchester that Dr. Gamgee translated Hermann's "Lehrbuch der Physiologie." This translation from the fifth German edition came out in 1875. A second edition with additions and illustrations appeared in 1877. His greatest work, however, beyond doubt, and one which was destined to make Dr. Gamgee's name widely known, was the "Text-book of the Physiological Chemistry of the Animal Body, including an Account of the Chemical Changes occurring in Disease." The book, published in 1880, was dedicated to Sir Robert Christison, the author, in offering his tribute of admiration and regard, stating that "This intention has always been present with me, and this thought has added pleasure to what has truly been a congenial task." This volume involved an immense amount of original research and patient work, and though nearly 30 years have elapsed it still remains a solid monument to Dr. Gamgee and a lasting credit to British physiology. In its treatment of the subject it stands quite alone, unassailable as one of the most painstaking and originally conceived works in scientific literature. It is true enough that no one could have foreseen the immense development which organic chemistry has undergone. It is doubtful whether the advances made in organic and physical chemistry during the last two decades will be paralleled in another quarter of a century. Then physical chemistry was almost non-existent, organic chemistry was in its infancy, and synthetic chemistry was being founded by Berthelot. But the value of this work is in no way impaired by subsequent researches. It was, and will continue to be, the best exposition of the subject as this appeared to the author, a book strictly concerned with physiological chemistry as contrasted with organic chemistry that has a physiological bearing. The subject is treated from the point of view of the biologist and physician rather than the chemist, the arrangement of the subject is physiological rather than chemical, and for the first time a book was produced in the English language available both for the study and the laboratory. Marked literary excellence characterises the book: it is able to be easily read by students or by teachers. Above all, the value of accurate experimental work comes out on almost every page; as one of those who reviewed the book has said, the author has kept before him the saying, "*Chymia egregia ancilla medicinæ, non alia pejor domina.*" In 1880 the importance of chemical research in the direction of an aid to pathology was almost unknown, and this book was at once an indispensable and exhaustive contribution to English science and medicine. A second volume which constituted an independent and complete treatise on the "Physiological Chemistry of Digestion" appeared 13 years later. This, like its predecessor, was written not so much from the standpoint of a pure chemist as from that of a physiologist; all parts of the subject which are of interest to the pathologist, pharmacologist, and the scientific physician are treated with especial care. That part of the volume which deals with the bile, jaundice, and the formation of gall-stones stands out with particular clearness on account of its excellence. While engaged on this volume the author continued to collect papers and re-wrote the first volume which was out of print. The whole work, though incomplete, remains as evidence of the thoroughness which almost amounted to pedantry with which Dr. Gamgee carried out his work; his industry, his single-heartedness of purpose, and his absorbing love of scientific research can be appreciated from these two books. By these he will be remembered, for his numerous original papers are naturally only known to comparatively few students.

In 1885 Dr. Gamgee left Manchester, was appointed assistant physician at St. George's Hospital in 1889, and lectured on pharmacology and materia medica in the medical school. He resigned from ill-health, resumed his scientific work in Cambridge, finishing later in Berne the second volume of the "Text-book of Physiological Chemistry." He determined to work and live abroad, practising as a consulting physician first at Lausanne and subsequently for several years at Montreux. In his spare time he worked actively on those absorption bands of hæmoglobin and its derivatives which are to be found in the ultra-violet portions of the spectrum (Soret's bands). While at Montreux, where he fitted up a laboratory in the basement of his house, he continued those researches which were to form the substance of his Croonian lecture before the Royal Society in 1902, on Certain Chemical and Physical Properties of Hæmoglobin. This subject, treated so admirably, had been the design of his investigations for years, and we must still look to his contribution to Schäfer's "Text-book of Physiology" for the most exact and painstaking account of "Hæmoglobin: its Compounds and the Principal Products of its Decomposition," which *exists* in English or, indeed, in any other language. In his researches on the blood pigment he demonstrated that this, like silicic acid, could exist in a colloidal state, hæmoglobin falling as a red cloud through a colourless liquid in the anodic compartment of an electrolytic cell. It is in this colloidal state that hæmoglobin probably exists within the red corpuscles. Other facts first discovered by Dr. Gamgee are the paramagnetic behaviour of hæmin and the dextro-rotatory properties of hæmoglobin.

In the autumn of 1902 Dr. Gamgee was invited to America, visiting the laboratories of New York, Baltimore, Philadelphia, and Harvard. The purpose of this visit was to enable him to take a complete survey of our present knowledge of nutrition. The difficulties in the way of completing this work were far beyond what he had anticipated, and his medical work at Montreux had grown so as to leave him but little time for a work, which could only be done with assistance and in proximity to a thoroughly equipped library. In the spring of 1903 he revisited America, previous to which he had just received the Hon. LL.D. of Edinburgh, a city which he loved more than any in the world and one which gave him a warm welcome on this occasion. From the time of his return to Switzerland his scientific work begun there, and subsequently carried out at Cambridge and in the Physiological Laboratory of the University of London, was concerned with the realisation of an idea conceived much earlier—the continuous registration of the variations in temperature of the animal body. By means of a photographic recorder a continuous registration, and by the thread-recorder devised by Mr. Horace Darwin a quasi-continuous record, can be obtained by the use of thermo-electric couples and thermostats which are capable of being maintained at an absolutely constant temperature. Dr. Gamgee's last published paper in the *Philosophical Transactions* of the Royal Society in 1908 contains a full account of the methods which he had devised for studying the fluctuations of the body temperature in health and disease, together with a full account of the history of medical thermometry from the time of Sanctorius

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[2] Descent of Man, second edition, p. 144.

ARTHUR GAMGEE, M.D. EDIN., F.R.C.P. LOND., F.R.S.

(From a photograph by Messrs. Elliot and Fry.)

to the present day. This idea of being able to graphically register temperature variations was solved by Dr. Gamgee, and this work he believed in the future was likely to play an important part in the diagnosis and treatment of disease. And it is certain that if the records of temperatures taken several times a day with thermometers are of value, a fact traversed by no one, then a practical method for registering the diurnal curve of temperature must be of far-reaching importance, and doubtless there is a wide field of research open to those who will employ such a method as an adjunct to clinical study. An advance in method which has reference to the general metabolic processes of the body cannot fail to add to our knowledge of the phenomena both of health and of disease.

In 1908 Dr. Gamgee received the Hon. D.Sc. of the Victoria University and most eulogistic references to his work were made by the Principal. "An interpreter of the work of German physiologists, he has as an investigator long since repaid the debt to his brethren of that nationality, who in their turn are now glad to have at their command and in their tongue the records of his life-long researches, and I claim that no one has shown greater skill or a more subtle genius in the field of research than the physiologist whom I bring before you." Last year he represented the Royal Society on the occasion of the celebration of Haller's bicentenary at Berne, and during the last few months he was actively engaged in furthering the success of the International Congress of Applied Chemistry, which meets in London on May 27th. He was vice-president of the Physiological Chemistry Section.

Men like Professor Arthur Gamgee are difficult to place in any exact order in the hierarchy of physicians. His clinical work was dwarfed by the range and intensity of his scientific labours, and these, in their turn, were so original that their scope and value could not be immediately estimated by his medical colleagues. In our view Gamgee's resolute intention to make his research work have a practical bearing upon pathology, pharmacology, and therapeutics generally (see the complete bibliography of his writings appended to this notice) secures for him an extraordinarily high place among the leaders of medicine, a place which later development in our science will only serve to confirm or even further to elevate. He was an excellent linguist, possessed of a most retentive memory, a thoughtful student of the history of many branches of science, and an excellent classical scholar. Quoting from his favourite author, we may say of him: "Nonne vobis videtur animus is, qui plus cernat et longius, videre, se ad meliora proficisci; ille autem, cujus obtusior sit acies, non videre?" He preserved throughout his life his enthusiastic love for scientific work, which led him to give his time ungrudgingly to research, and he dwelt in the atmosphere which envelops those who care for knowledge for its own sake. Art, literature, science, each demands much of a man. To science Dr. Gamgee devoted his life. In return for this, in his work and in the affection, not only of his own family, to whom he was so dear, but in the genuine affection which so many felt for him, he must have had his reward. To those who knew him intimately, could understand his aims, his single-heartedness, and the complete simplicity of his nature, which was almost like that of a child, his loss has been severe. Of a most affectionate disposition and of a sanguine temperament he may not always have chosen to display these qualities to others. He has not lived to complete his work; it was ordained otherwise. In 1875 he married the daughter of Mr. J. Proctor Clark. This lady and two daughters survive him, and to them we offer our deep sympathy in their bereavement.

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[illegible] 24. On [illegible] ntinuous [illegible] o Animal [illegible] 19-240.

CLAUDIUS GALEN WHEELHOUSE, F.R.C.S. ENG., LL.D. McGILL, D.SC. LEEDS,

CONSULTING SURGEON TO THE LEEDS GENERAL INFIRMARY.

WE deeply regret to announce the death, at his residence at Filey, on Good Friday, April 9th, of Mr. Claudius Galen Wheelhouse, the well-known surgeon. His death was not unexpected, for he had suffered for some weeks in a serious manner from attacks of cardiac syncope, but until quite the end he bore his burden of years bravely.

Claudius Galen Wheelhouse was born at Snaith in 1827, where his father, Mr. James Wheelhouse, practised as a surgeon. At the age of seven he entered the country branch of Christ's Hospital at Hertford, and later passed into the main school where he remained until, at the age of 16, when he made up his mind to follow in his father's footsteps and become a medical practitioner. At the age of 16 he was accordingly apprenticed to a firm of medical men in Ollerton, Notts, with whom he resided as a pupil for three or four years, and from whom he received such kindness and excellent instruction that he always advocated a system of apprenticeship for those entering the medical profession long after such a system had become practically obsolete. In 1846, being now 19 years of age, young Wheelhouse entered the Leeds School of Medicine, where he remained for three years until he obtained the diploma of M.R.C.S. Eng. in May, 1849. In the autumn of that year he left England in the professional charge of a party of noblemen, and in the course of a long and interesting journey visited Greece, Turkey, Egypt, Syria, and Palestine, taking with him one of the first photographic cameras that ever left England, which he used with considerable success, the resulting pictures being in the possession of his family.

In 1851 Mr. Wheelhouse became the partner in the well-established practice in Leeds of Mr. Joseph Garlick, and in the same year he was appointed demonstrator of anatomy in the Leeds Medical School and surgeon to the Leeds Public Dispensary. He now became an exceedingly busy man, being engaged at the same time in all the cares of general practice while pursuing with ardour the purely scientific side of his profession as a highly successful teacher. In 1864 he became a Fellow of the Royal College of Surgeons of England, and about this time he severed his connexion with the Public Dispensary, being elected surgeon to the Leeds Infirmary. To his educational work Mr. Wheelhouse showed the greatest devotion. He lectured in turn upon anatomy and surgery and took large classes of private pupils, with whom he was extraordinarily successful. As the well-informed writer of the obituary notice in the *Yorkshire Post* says: "For many years few of the pupils of the Leeds School of Medicine presented themselves for examination at the Royal College of Surgeons until they had his assurance that they were fit to do so, and even to this day many of his old pupils will remember with gratitude the care he took in their preparation. The high position to which the Leeds School of Medicine attained was to a very large extent due to the unremitting zeal which Mr. Wheelhouse took in nursing the institution through its early difficulties, and he is pronounced by the students of that day to have been one of the best teachers of anatomy, physiology, and surgery that the school ever possessed."

We can trace in Mr. Wheelhouse's extremely successful career during the next 20 years of his life why he was universally regarded in the profession as the most typical representative of general professional interests in the country. And we can see also why he himself was so ardent a champion of the rights of the general practitioner and so earnest in his declarations that the general practitioner must always be the backbone of our calling. He was himself in general practice while making his influence felt in a continually increasing manner both as surgeon and teacher, and he always attributed his success to the thorough manner in which he had been grounded in the elements of his calling by his apprenticeship as a youth. He carried into the practice of surgery the thoroughness and accuracy which he owed to his long anatomical studies, together with an attention to detail that was the outcome of much bedside experience. These qualities are well shown in the operation which bears his name. External urethrotomy appears to have been first performed by Mariannus Sanctus in 1554, though many have ascribed it to Jérome Cardanus and Durante Saccachi, but it was almost forgotten till 1844 when Syme introduced his operation for permeable strictures. For strictures through which it was not possible to pass any instrument Cock's puncture remained the sole resource until Wheelhouse in 1876 published his method of external urethrotomy. Until this operation was known, any attempt to reach the stricture by dissection was very likely to fail, for the surgeon was entirely without a guide and he was much more likely to miss the urethra than to find it. Wheelhouse claimed that his method rendered an operation, confessedly one of the most difficult in surgery, a comparatively easy one, giving results both immediately and ultimately more favourable than ever seen before. The operation remains to the present day the best method of dealing with most cases of impermeable strictures of the urethra; several modifications have been made in the details of the operation but no important alteration has been effected. The advance of surgery in the direction of asepsis renders it nowadays a much simpler operation to cut down directly on to the stricture, to dissect it out, and to suture the two ends of the urethra, for the septic risks have been much reduced, but this method of excision of the stricture will probably for long be reserved for the exceptional case, while Wheelhouse's [illegible]ation, perhaps modified somewhat, will continue to [illegible] tion of choice for impermeable strictures. To
results it is necessary to pay attention t
instructions to open the urethra not at the
but at least a quarter of an inch in front of it

Turning now from the scientific to the
Wheelhouse's busy career we find him as an i
at the board of the General Medical Counc
supporter of the British Medical Associati
held at different times the chief offices. In
Address in Surgery at the meeting at Bath, a
1884 he was President of the Council of the
in 1889 he was President of the Association
meeting was held at Leeds. In referring
address on that occasion, which dealt wit
medical education and examinations, w
columns that his opinions were "those of o
long and large experience combining in a ra
a general and consulting practitioner and
surgery," and it is worthy of note how oft
practical knowledge of all sides of his prof
words an extraordinary impressiveness.
was this so because he was no praiser
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been good in them. In this Presiden
admitted that the new race of students wer
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practitioners, but for the first few years of
life they were, he thought, unfamiliar with
of practice and the common types of disease,
overburdened with their responsibilities. A
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whole address proved him to be an origi
practical man. In 1897 he received the g
British Medical Association, and in the sa
annual meeting of the Association was hel
with Lord Lister, was among the recipient
degree of LL D. from the McGill Universit

In 1886, when the principle of direct re
the General Medical Council was first conc
with his firm friend the late Dr. Glover and
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uninterruptedly for ten years upon the Cou
time he served with the best of his great a
the general practitioner. There was nothing
about him, so that all his words and actions
to a certain type of reformer, but in the
was always listened to with respect. I
profession was sharply divided by the vex
registration of midwives and Wheelhous
offer himself for re-election; nor could h
reconsider this decision when in the f
unexpected vacancy in the direct repre
profession occurred. On the inauguration
of Leeds in 1904 Mr. Wheelhouse receiv
the Marquis of Ripon, Chancellor of t
degree of D.Sc. as a recognition of h
cause of medical education in Leeds, and
have been a singularly gratifying one to
the successful outcome of labours to w
but distinguished group of colleagues had
for many years.

One other side of Mr. Wheelhouse's va
deserves mention, as it shows him in his
of the kindest of men—we refer to his l
with the West Riding Charitable Society.
ship with Mr. Garlick, who was secretary t
Charitable Society from its foundation in
became interested in its work, and after
partner he continued to assist the new se
finally succeeded. The work was cong
w himself into it with extraordina

ervices to it as secretary and treasurer for 25 years 300 of his [illegible] him at the annual dinner [illegible] and chain, a tea service, [illegible] e subscribers in an album. [illegible] e peace for the East Riding ivision of Yorkshire, and as magistrate, school manager, hurchwarden, and the holder of other public offices contributed in no small measure to the welfare of the county ith which he was associated.

In this brief notice of the career of Mr. Wheelhouse we ave endeavoured to show the consistent honesty and mplicity of the man. He had fine ideals of what the edical life should be and what was the right training for , and he steadily lived up to those ideals.

JAMES HARDIE, M.D. EDIN., F.R.C.S. ENG.,

CONSULTING SURGEON TO THE MANCHESTER ROYAL INFIRMARY, ETC.

James Hardie, who died on March 27th, was born in 1841 [illegible] es from North [illegible] After attending [illegible] he went to the [illegible] e entered the [illegible] Here he came nder the influence of both Syme and Lister, the latter whom had just begun his remarkable work at Edinburgh. nder such surroundings Hardie early became imbued ith an enthusiasm for surgery and possessed with a esire to become a surgeon, but after graduating as M.D. 1862 several years passed before there appeared any ospect of his aspirations being realised. The late sixties" found Dr. Hardie immersed in the exacting work a busy general practice at Harpurhey, in the outskirts Manchester but still bent upon being a surgeon. A newomer in a large town, without influence, wanting even the nglish surgical qualifications so helpful, if not actually sential, for the gaining of a hospital appointment, the ance of his ever becoming a surgeon seemed very remote. ut James Hardie's nature was one not easily depressed. In ite of the trying demands of a large general practice he [illegible] anaged to gain enough reputation [illegible] to the, at that time, small clinical [illegible] l children, now the Manchester orthern Hospital. This success was followed by his election visiting surgeon to the large Manchester Poor-law Town- [illegible] spital appointments Dr. Hardie decided to give up general ractice and embark upon a career as a pure surgeon. Still, or a long time patients were few and success seemed so emote that even he became dispirited and the public health ervice seemed to offer superior attractions. By virtue of his connexion with the Manchester and Salford Sanitary Association he was selected on the short list for one of the newly created sanitary districts of the county of Cheshire and *only narrowly escaped becoming a medical officer of* health. The successful candidate on this occasion was his old fellow-student, Dr. (now Sir) Thomas R. Fraser of Edinburgh, who did him an ever gratefully remembered service by defeating him. After this excursion into public health surgery once more claimed him. By active participation in the medical life of the town, aided by communications to the various medical societies, notably by a paper on the Pathology of Club-foot, Mr. Hardie (as he now began to be c [illegible] aff of the I [illegible] eon. Notwithstanding the fact that he had no previous official connexion with either the institution or the medical school, Mr Hardie succeeded in gaining tl [illegible] fight. To this was soon added t [illegible] district surgeon to the London [illegible] and in 1882, by the retirement o [illegible], Mr. Hardie from assistant surgeon became full surgeon. In this same year he became by examination a Fellow of the Royal College of Surgeons of England. From this time, or rather from the date of his first appointment to the infirmary, his success was assured, but the bare narration of these successive steps in his career affords no idea of the amount of energy and persistent effort required to accomplish it. For a stranger in a general practice in a large town in a few years to gain a footing on the staff of a leading teaching hospital is in itself no small achievement, and argues much ability backed by great force of character. Mr. Hardie's active connexion with the infirmary lasted until 1901, when on reaching the age limit he became consulting surgeon. In 1894 he was elected on the Council of the Royal College of Surgeons of England, and throughout his term of office took an active and prominent part in the affairs of the College.

As a surgeon Mr. Hardie almost from the first became an enthusiastic adherent of Lister, and while remaining a "good all-round man" he early devoted himself especially to the domain of plastic surgery. In this department he became distinguished for the originality, boldness, and ingenuity of his operations and the dexterity and success with which he carried them out. Chief amongst many modifications of existing operations he conceived the idea of transplanting the terminal phalanx of the little finger to form the bridge of the nose in the Tagliacotian operation for the restoration of that organ, a procedure which he carried out with success in many cases. Confident in the safety of strict antiseptic methods, he was the first in this country to perform and to advocate the open method of operating upon Dupuytren's contraction by which the contracted hypertrophied palmar fascia is freely exposed and completely removed. This he did at a time when any interference with the palmar fascia other than by timid tenotomies was dreaded by most surgeons. In the operative treatment of hare-lip and cleft palate he earned a deservedly high reputation; in his hands these operations appeared most simple procedures. Those who watched him operating in many of these cases were always impressed by the simplicity of the methods which he employed. In the most severe cases, rarely, if ever, had he recourse to any of those out of the way plans set forth in surgical literature. Under Hardie's deft hands the most severe deformities were rectified by ordinary simple straightforward methods. Unfortunately, qualities of this nature and cunning of hand cannot be described on paper, and, moreover, Mr. Hardie had a disinclination for writing. He did not often publish his cases or explain his methods, and so scarcely gained that credit to which he was justly entitled.

The various institutions with which he was connected had in him an active officer, one interested in all the details of their management and politics. Coming from Edinburgh, which owes so much of its repute as a medical teaching centre to its extra-mural schools, he was a moving spirit in an attempt to provide Manchester with similar advantages for its students Fortunately or unfortunately, the effort was abortive and ended in failure through the defection of some of its supporters just when success seemed assured, to the lasting regret of at least one of its projectors. The long debated question of the situation of the new infirmary found Mr. Hardie a strong advocate for the rebuilding of a larger hospital on the original *central site. In furtherance of this, and to illustrate* his views upon double wards and the plenum system of ventilation, he had drawn up by his friend the architect of Marischal College, Aberdeen, the plan of a beautiful Gothic building. This, whatever might have been its merits or demerits as a hospital, by its originality of design, beauty, and artistic proportions would have adorned a magnificent site and conferred distinction on the town.

His active, restless temperament made him take a share in all medical affairs; he was for long a leading member of the Edinburgh University Club, the Manchester and Salford Sanitary Association, and other public bodies more or less allied to medicine. As a colleague he was always conspicuous for loyalty to his fellow workers, particularly in reference to any public question. While he might on occasion be tenacious of his individual rights, he was invariably just and reasonable in his attitude towards the claims of others. *Gifted with a capacity for expressing* his views clearly and distinctly, and always having definite opinions, he was a valuable member of any committee. He could make up his mind quickly and definitely upon any matter, fearlessly take a side, and loyally stick to it. There was no suspicion of temporising or wavering in his character, which led to his gaining a well-deserved reputation for honesty of purpose and direct dealing. Unhappily ill-health, which attacked him comparatively early in life, militated against the full development and exercise of his undoubted abilities and *impaired his usefulness.* However, in spite of all he accomplished something, and his older friends who knew him in early days will cherish the memory of what he used to be and of what he did accomplish, while regretting what he might have done with better health. He married early in his career Miss Young, daughter of the well-known Edinburgh surgical instrument maker, who survives him. Their one child, a son, died some years ago.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Theodor von Dunin, physician to the Hospital of the Child Jesus in Warsaw.—Dr. Hermann Julius Thomas, medical councillor, of Badenweiler and Nervi, where he practised during the winter months.

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—*At the Second Professional Examination* of the Conjoint Board in Anatomy and Physiology held on April 1st, 2nd, 5th, and 6th, 98 candidates presented themselves, of whom 66 were approved and 32 were rejected. The following are the names of the successful candidates:—

George Aldridge, St. Bartholomew's Hospital; Thomas Stevens Allen, Guy's Hospital; Charles Vernon Anderson, St. Thomas's Hospital; Charles Nelson Atlee, St. Mary's Hospital; Herbert Ferris Barge, Guy's Hospital; William Rawson Barlow, Middlesex Hospital; Tremlett Brewer Batchelor, B.A. Oxon., Oxford University and London Hospital; Ellis Campbell Bowden, London Hospital; Ronald Edgar Russell Burn, St. Bartholomew's Hospital; Terence Campbell Butler, Westminster and King's College Hospitals; Albert James Clarke, St. Bartholomew's Hospital; Thomas Clarke, Leeds University; Charles Frederick Constant, Guy's Hospital; Hugh Gregan Crawford, Guy's Hospital; Joseph Henry Creasy Davis, Middlesex Hospital; Alfred Evan Lewis Devonald, King's College Hospital; William Everard Sherard Digby, Guy's Hospital; John Chute Ellis, New Zealand University and London Hospital; Alfred George Timbrell Fisher, University College, Bristol, and St. Bartholomew's Hospital; Charles Michael Forster, B.A. Cantab., Cambridge University and C [illegible] Green, St. Mary's Hospi [illegible] Caracas University and [illegible] Hadfield, St. Bartholom [illegible] B.A. Cantab., Cambridge [illegible] *Ravensworth Hart,* Guy' [illegible] University; John Rollo [illegible] Howard Heaton, London [illegible] College Hospital; Bernai [illegible] Cross Hospital; William [illegible] Jefferson, Manchester [illegible] Cambr [illegible] Bartholomew's Hospital; [illegible] Noel [illegible] ollege; John Forbes O'Connell, St. M [illegible] George Orchard, St. Bartholomew's [illegible] Bhaibabhai Patel, Bombay University [illegible] *Hospital;* Cresswell Lee Pattison, St. M [illegible] eph Herbert Pearson, London Hospital; George Harold Pearson, London Hospital; John Pinder, Leeds University; Courtenay Henry Gerard Pochin, Guy's Hospital; Thomas William Watkin Powell, St. Mary's Hospital; Richard Cruikshank Poyser, Guy's Hospital; Richard Frith Quinton, London Hospital; Edward Gordon Reeve, Guy's Hospital; Cecil Goodwin Reinhardt, Leeds University; Edmund Uniacke Russell, King's College Hospital; Ahmed Sabri, Cairo Medical School and St *Thomas's Hospital; Wilfrid Ralph* Sadler, St. Bartholomew's Hospital; Henry Kenneth Victor Soltau, St. Bartholomew's Hospital; William Steuart, St. Bartholomew's Hospital; Hugh Stott, University College; William Edward Tanner, Guy's Hospital; Julian Taylor, University College; Keshav Sadashiv Thakur, L.M. & S. Punjab, Punjab University and University College; Victor Vesselovsky, St. Thomas's Hospital; Victor David Collins Wakeford, St. Bartholomew's Hospital; Philip James Watkin, Guy's Hospital; John Robert Douglas Webb, Liverpool University; and Cyril Guy Whorlow, St. Thomas's Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the Preliminary Science Examination for the Licence in Dental Surgery held on March 29th and 30th and April 1st the following gentlemen were approved in the undermentioned subjects:—

Chemistry and Physics.—David Cohen Bernstein, Birmingham University; Gwilym Tremain Davies, Middlesex Hospital; Frederic Hopkinson, Royal Technical Institute, Salford; Montague Fred Hopson, Guy's Hospital; Charles Henry Housden, Battersea Polytechnic; *Hubert Humphry, Birkbeck College;* Bertram Howard Jones, Middlesex Hospital; Michael William Joseph, Birmingham University; Reginald Charles Kershaw, Liverpool Municipal Technical School; John Farnham Mace, Birmingham University; George Matthews, Guy's Hos [illegible] ham University; Herbert [illegible] Cardiff; William Davies Mo [illegible] Bertram Neely, Guy's Hospi [illegible] pital; Harold Robert Parkes [illegible] Pasmore, Royal Albert Mem [illegible] Rhodes, Cambridge Universi [illegible] tute; Gilbert John Stuart [illegible] hool, Canterbury; Oscar Henry Tittman, Charing Cross Hospital; and Charles Henry Wilson, University College, Cardiff.

Chemistry.—Samuel Trude Fripp, Polytechnic Institute; Charles Edward Murch, Birkbeck College; Roy Harry Barkly Pallett, Middlesex Hospital; *Christopher* Hodgson Pywell, Middlesex Hospital; John James Ward, Harris Institute, Preston; and Lewis William Wilson, Charing Cross Hospital.

Physics.—Eric Sutton Dickin, Liverpool University; John Gordon Harris, Royal Technical Institute, Salford; Herbert James Pegler, Guy's Hospital; and Felix Lambert Pradier, Polytechnic Institute.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

PRIMARY EXAMINATION, PART I.

Biology.—J. F. Bourke, Glasgow; P. R. Cross, Birkbeck College; J. E. Kitchen, Manchester; L. F. Pain, Royal Free Hospital; and H. F. Rose, Cambridge.

Chemistry.—J. F. Bourke, Glasgow; P. R. Cross, Birkbeck College; J. E. Kitchen, Manchester; W. A. Oaten, Royal Free Hospital; and H. G. Steel, St. Mary's Hospital.

Materia Medica and Pharmacy.—P. R. Cross, Birkbeck College; *F. I. G. Hunter, Royal Free Hospital and Liverpool;* and R. E. Laurent, Edinburgh.

PRIMARY EXAMINATION, PART II.

Anatomy.—H. Cox, Birmingham; H. N. Eccles, Guy's Hospital; *C. de C. W. Langdon,* Manchester; P. J. Montgomery, Middlesex Hospital; F. G. Norbury, Glasgow; H. Rimington, St. Bartholomew's Hospital; and R. A. Robinson, Liverpool.

Physiology.—H. Cox, Birmingham; L. S. Daly, Manchester; P. J. Montgomery, Middlesex *Hospital;* F. G. Norbury, Glasgow; H. Rimington, St. Bartholomew's Hospital; and R. A. Robinson, Liverpool.

UNIVERSITY OF LIVERPOOL.—The following is a list of the successful candidates in the recent examination for the Diploma in Tropical Medicine:—

R. G. Abercrombie, J. R. P. Allin, H. P. W. Barrow, P. Carr-White, *W. S. Clark, R. Cope, W. D. Hayward, W. P. Meldrum,* J. C. Murphy, M. G. Samuel, M. H. Thornely, and W. S. *Webb.*

UNIVERSITY OF DURHAM.—At the Convocation on April 3rd the *following degrees* were conferred:—

Doctor of Medicine.—Gilbert Iliffe Cumberlegge, Robert Alexander Morris, William Waters Stainthorpe, and Percy Edward Turner.

Degree of Doctor of Medicine for Practitioners of 15 Years' Standing.—Graham Thomas Baylis Blick, Alfred Arthur Hill, Ernest William Gurney Masterman, Edward James Fleetwood Moore, John Percy Oliver, and Walter John Ernely Sumpter.

Master of Surgery (M.S.).—Bryden Glendining.

Bachelor of Medicine (M.B.).—Kenneth *Bruce* Allan, College of Medicine, Newcastle-upon-Tyne; Harriett Amelia Rachael Apps, London School of Medicine for Women; Eldred Curwen Braithwaite, Leonard Foster Browne, and Charles Ernest Lewis Burman, College of Medicine, [illegible] n Evans, Guy's Hospital; Jo [illegible] College, Belfast; Henry Fre [illegible] Duncan Matheson Johnston, St. Bartholomew's Hospital; Annie Viccars Mack, College of Medicine, Newcastle-upon-Tyne; Jessie Margaret Murray, London School of Medicine for Women; *and* Friederike Rahtkens, College of Medicine, Newcastle-upon-Tyne; William Rollin, Robert Henry Smallwood (Rev.), and Theodore William [illegible] -Tyne.

Ba [illegible] of Medi [illegible] Evans, Guy's [illegible] llege, Belfast; [illegible] tle-upon-Tyne; [illegible] ne for Women; [illegible] nry Smallwood [illegible] Stallybrass, College of Medicine, New-

Bachelor of Hygiene (B.Hy.).—Guy Rowland East, John Tyrer Johnson, William Roy Macdonald, Elizabeth Niel Neil, Arthur John Rushton O'Brien, and Gertrude Ethel O'Brien.

Diploma in Public Health (D.P.H.).—Guy Rowland East, John Tyrer Johnson, William Roy Macdonald, Elizabeth Niel Neil, Arthur John Rushton O'Brien, and Gertrude Ethel O'Brien.

UNIVERSITY OF ABERDEEN.—The following degrees in Medicine have been conferred:—

Doc [illegible] —William Angus, Robert Chalmers, [illegible] Cowan, James Alexander Davidson, [illegible] Hugh Skinner.

Master of Surgery (Ch.M.).—James Robertson.

Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.).—Alexander Greig Anderson, William Anderson, David Main Baillie,

LONDON SCHOOL OF TROPICAL MEDICINE.—The examination in Tropical Medicine held at the end of the twenty-ninth session, January to April, was successfully passed by the following candidates:—

*J. A. Beamish, *I. Davenport Jones, Captain, I.M.S., *G. M. Gray (Colonial Service), *L. Garnin, J. H. McDonald, Major, I.M.S., S. A. Winsor, J. W. Archibald (Colonial Service), Miss Dora Watney, M.B., E. M. Franklin (Colonial Service), D. C. Master, R. Mortimer Johnson, T. Hood Rankin (Colonial Service), C. W. O'Keeffe (Colonial Service), J. C. Spillane, T. F. Lumb (Colonial Service), A. W. Grant (Colonial Service), G. B. Mason (Colonial Service), A. H. Fyzee, and R. C. Thomas.

* Passed with distinction.

It is proposed to hold advanced

i.e., in Protozoology, Arthropod

commencing on or about Jan. 1

each year, for medical men and veterinary surgeons. Students who have attended the ordinary course are eligible, and also others who satisfy the teachers in these subjects that they possess sufficient rudimentary knowledge to benefit by these courses. The advanced course in each subject will begin at the expiration of the ordinary course in that subject at 10 A.M., viz.: General medical zoology, first week of

week of the session; arthro-

session; and helminthology,

angements are so made that the advanced course in all three subjects can be taken during the three months or the whole time may be spent on one subject. Special arrangement may be made with the teachers where it is desired to spend more time on one branch to the exclusion of the others or to undertake research work in that subject. The subjects in each are as follows: The advanced course upon general medical zoology (Colonel A. Alcock, I.M.S.) will consist of eight meetings, at which will be considered the more important morphological and *biological characters of the groups* which are not *treated* in the courses of protozoology and helminthology, such as the rats and mice, the blood-sucking bats, the venomous reptiles and fishes, and certain forms of minor importance, particular attention being directed to the venomous snakes. The lectures will be based upon demonstrations of actual specimens. The advanced course in protozoology (Dr. C. M. Wenyon) will consist of demonstrations and practical work. No formal lectures will be given, but each student will receive individual instruction in the laboratory. The course will be almost entirely a practical one in order that the students may become acquainted with some of the more difficult methods of preparation and culture of the protozoa. The advanced course upon arthropodology (Colonel Alcock) will consist of 12 meetings, at which will be considered: (1) The general morphology of the several constituent classes of the phylum and of the orders diptera, siphonaptera, hemiptera, siphunculata, and acarina; and (2) the generic and specific characters and life-history of those forms which are concerned in parasitism and the *dissemination of disease in man*. The lectures will be based upon *demonstrations* of actual specimens. The advanced course in helminthology (Dr. R. T. Leiper) will consist almost exclusively of practical work in the research laboratory under the supervision of the helminthologist. The structure and development of the more important human helminthes, already considered in the ordinary course, will be restudied in detail. Many of the rarer parasites will also be examined. Considerable attention will be given to methods of collecting and preserving the various kinds of worms, and for this purpose occasional visits will be made to abattoirs. The last two days of the course will be devoted to the study of leeches. Past students of the school who have taken a course of more than one month will be admitted at the rate of £1 1*s.* per week; others at the rate of £1 11*s.* 6*d.* per week. Students who have attended these *courses are eligible for the Cragg's prize* and for the appointments as Cragg's Investigators. Further particulars as to the course of study may be had on application to Dr. C. W. Daniels, the Director at the school, Connaught-road, Albert Dock, E., or to the Secretary at the head office, *Seamen's Hospital, Greenwich, S.E.*

Dr. Franz Ritter von Haberler of Innsbruck has been appointed Ministerial Councillor and Medical Referee to the Austrian Ministry of the Interior in succession to the late Dr. Daimer.

MEDICAL MAGISTRATE.—Among a number of new magistrates whom the Lord Chancellor has just appointed

l Matthews Browne,

Browne has been a

WE are requested to state that forms of application for the admission of children into the Lord Mayor Treloar Cripples' Home and College, Alton, can be obtained from Sir William Treloar, 122, Mansion House Chambers, London, E.C. Special consideration will be given to applications for the admission of children suffering from tuberculous disease of the bones and joints.

LITERARY INTELLIGENCE.—Messrs. Hammond, Hammond, and Co., of 12, *Paternoster-row, have just issued* a new work by Dr. A. D. Edwards, medical officer of schools for Bournemouth, entitled "Children of the Poor." The book deals with such subjects as child-life in the slums, underfed and overworked children, pain and suffering in childhood, *childhood in the* workhouse, *open-air* schools, and the *Children Act* of 1908.

THE MIDLAND MEDICAL UNION AND THE MIDWIVES ACT.—The following resolution was passed at a meeting of the Midland Medical Union held at Chesterfield on April 8th, after a discussion of the position held by the medical practitioner under the Midwives Act, 1902:—

the Public Assistance Authority shall, if requested, issue an order

We are informed by the secretary to the union that the resolution has been forwarded to the Departmental Committee of the Privy Council which is now sitting on the matter.

CENTRAL MIDWIVES BOARD.—A special meeting of the Central Midwives Board was held on March 23rd at Caxton House, Westminster, with Dr. F. H. Champneys in the chair. The Board considered the following charges amongst others against certain midwives and ordered them to be struck off the roll:—

M—— J—— B——, that being in attendance as a midwife at a con-not send for a doctor. R—— K——, S—— J—— L——, and H—— T——, that they were uncleanly and did not take with them to confinements the appliances and antiseptics required by Rule E, 2. E—— M—— B——, for habitual drunkenness. A—— G——, that on March 9th, 1895, she was convicted of having unlawfully and feloniously used an instrument with int creupon sentenced to be kept in that on Oct. 27th, 1904, she proc by the Central Midwives Board by causing to be made and by producing a false and fraudulent certificate of good moral character. S—— A—— M——, that she had been convicted for being drunk and disorderly during the years 1902 to 1904, and that on April 27th, 1905, she procured the grant of a certificate to her by the Central Midwives Board by making a false and fraudulent representation that she was trustworthy, sober, and of good moral character, and by causing to be made and by producing a false and fraudulent certificate to this effect.

The documents relating to the last two cases were ordered to be sent to the Public Prosecutor. The following midwives were cautioned after charges against them had been considered: M. A——, A. M. B——, and F. C——. E. M—— and M. E. S—— were censured after charges alleged against them had been considered.

THE CHILDREN'S FRESH AIR MISSION.—The annual meeting of this charity will be held, under the presidency of the Lord Mayor, at the Mansion House, on April 27th, at 3 P.M. It exists to provide change of air for the children of the poorer classes, especially the sickly ones, in the congested districts of Holborn, Clerkenwell, and St. Luke's, and by arrangement from other parts of London. The objects of the mission should appeal to all who look forward with eagerness to the rest and recuperation which they derive from their own annual holiday, and the committee states that a subscription of 10s. will give a child a fortnight in the country. The mission was founded in 1882, when 269 children were sent out of London, and the numbers steadily progressed until last year 3224 received the benefits of the society, making a grand total of 70,763 since its foundation. It may be fairly claimed that this work has had a beneficial effect upon the health of a helpless section of the community in which the recent report of the Education Committee of the London County Council has proved a sadly great amount of disease to exist. We commend the mission to our readers.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Easter Recess.

BOTH Houses of Parliament adjourned on April 7th for the Easter Recess. The House of Commons will reassemble on Monday, April 19th, and the House of Lords on Tuesday, the 20th. Since Parliament met in February a large portion of the time of the Commons has been occupied with financial business, and accordingly the Government programme of legislation is not far advanced for the season of the year. A second reading, however, has been obtained for the Housing and Town Planning Bill. It is not going to be sent to a Standing Committee this year, and it is highly probable that the Government wil take steps to accelerate its rate of progress after the Easter holidays.

The Progress of Private Members' Bills.

Private Members' Bills under the stress of modern legislative conditions have little chance of reaching the Statute Book. Few of them do reach it, but that fact in no way seems to deter Members from introducing measures on their own account to further causes in which they have an interest. Frequently the object is merely to embody definite proposals in a public document in order that a measure of attention should be given to them both in and out of Parliament. About 150 Bills have already been brought in during the present session in the House of Commons. The vast majority of them have not yet received a second reading. Amongst those which have been fortunate to make progress is Mr. BRAMSDON's Oaths Bill which is designed to substitute the taking of an oath by uplifted hand for the prevalent practice of "kissing the book." This measure has passed through its committee stage. Sir WILLIAM COLLINS's Bill dealing with the superannuation of asylum officers has been sent to a Select Committee. Amongst the Bills which are awaiting a second reading are the Asylum Officers' Superannuation (Scotland) Bill, the Coroners' Inquests Bill, the Deaths Registration and Burials Bill, the Infant Life Protection Bill, the Local Education Authorities (Medical Treatment) Bill, the Medical Acts Amendment Bill, the Necessitous Mothers (Assistance) Bill, the Nurses Registration Bill (introduced by Mr. MUNRO FERGUSON), the Nurses Registration (No. 2) Bill (introduced by Mr. FINDLAY), the Prohibition of Vivisection Bill, the Public Health Officers Bill, the Registration of Nurses (Scotland) Bill (introduced by Mr. CLELAND), and the Vivisection (Abolition) Bill.

Beri-Beri on Merchant Ships.

Several questions have recently been addressed in the Commons to the representatives of the Board of Trade in the deaths of Asiatic firemen and seamen on board British ships from beri-beri. The replies have dealt with the each case brought forward, but Mr. TENNANT, the Parlia Secretary to the Board, has several times embodied in his statement to the effect that the cause of beri-beri has not y ascertained, but it is probable that bad or insufficient food m dispose to the disease.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 7TH.

Escapes of Lunatics.

Mr. CHIOZZA MONEY asked the Secretary of State for the Department how many imbeciles and lunatics had escaped from asylums in the United Kingdom during the last five years, a many of the escaped lunatics were recaptured.—Mr. GLA replied: I have not the figures for the United Kingdom, l following are the number of escapes and recaptures resp in the last five years in England and Wales:—

Year.	Escapes.	Recaptures.
1904	367	327
1905	363	328
1906	396	349
1907	356	317
1908	364	303
Total	1846	1623

A Grant to Mr. H. W. Cox.

Mr. BOWERMAN asked the Prime Minister what was the resu consideration given to the case of Mr. H. W. Cox, who recently serious and permanent injuries in connexion with x rays work.—Mr. HOBHOUSE (Secretary to the Treasury, who rep behalf of Mr. ASQUITH) said: A grant has been made to Mr. the Royal Bounty Fund.

Escapes from Asylums.

Mr. CHIOZZA MONEY asked the Secretary of State for the Department, with reference to the 67 imbeciles and lunati escaped from public asylums in England and Wales between and March 31st, 1909, how the 67 lunatics in question were with regard to the degree of their lunacy or imbecility by the ties; how many of the 67 had been recaptured; and what was taking with asylum authorities to protect the public f average of five escapes from public asylums per week.—Mr. G replied: The Commissioners in Lunacy cannot yet furnish mo information referred to in the first part of the question. 57 ou 67 who escaped were recaptured. The Commissioners conside agree, that asylum authorities generally in the country take caution to prevent escapes. As they state in the report wh presented to Parliament last week, public opinion would not the retrograde step of making asylums once more in the n prisons.

Mr. ARNOLD HERBERT asked the Secretary of State for th Department whether, having regard to the number of escap convict prisons and lunatic asylums, and the difficulty and persons who had so escaped, he ith bloodhounds in cases of future ply: I objections to ad e case of I am, however, the subje

Medical Inspection in Irish Schools.

Mr. VINCENT KENNEDY asked the Chief Secretary to th Lieutenant of Ireland whether he was aware that in Ireland th no medical inspection in the schools, although most countries, England, enjoyed it; that in Hungary the schools were inspected three times annually; and that without medical the Prevention of Tuberculosis Act would largely lose its portions of the Children Act (Clause 122) would be inopera Ireland; and further, whether he would see that Ireland would as much benefit from this legislation as England would.—Mr. replied by written answer: I am unable to add anything to th given on my behalf by my right honourable friend the General for Ireland to a question asked by the honourable Mem South Down on Feb. 26th, 1908.

The Drainage of the Village and District of Sketty.

Sir DAVID BRYNMOR JONES asked the President of the Local G ment Board whether the Swansea rural district council applied Board on or about June 1st, 1908, for its sanction to borrow £13 sewerage works for the village and district of Sketty within th of the council, and that an inquiry was held by one of the Inspectors into the question of the expediency of the prop and expenditure in August last; and whether, seeing that the of that village and district was in an unsatisfactory conditi dangerous to the health of the inhabitants, he could see his giving the required sanction at an early date.—Mr. Bu the following written answer: The facts are as stated in the The scheme involves the laying of a sewer on the foreshore below water mark, and to this the consent of the Board of Trade is That department has the matter before it, and as soon as its de has been given I shall be prepared to deal with the applicati sanction to the loan.

The Feeble-minded in Workhouses.

Mr. A. H. SCOTT asked the President of the Local Go Board whether he could issue an order to all Po remove or isolate when possible all feeble-minded epileptics, imbeciles, and lunatics from other inmates of the workhouse recommended in the recent reports of the Royal Commission on law and also in the reports of the Royal Commission on Aged P 1895.—Mr. BURNS (by written answer) replied: To the extent to existing accommodation or additions to accommodation in stitutions may suffice for the modification of present arrangements *fecting the classes to which the question refers the powers of the* ocal Government Board and of the Poor-law authorities could, no [illegible]

[illegible]

Appointments.

uccessful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BEATTIE, A. J., M.B., B.S. Edin., has been appointed Certifying [illegible]

[illegible]

DAVIES, J. L., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Newport District of the county of Monmouth.

IELDEN, W. E., M.D. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Staplehurst District of the county of Kent.

JOSCELYNE, A. E., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Taunton District of the county of Somerset.

KERR, C. LAWSON, M.B., Ch.B. Glasg., *has been appointed Assistant* Medical Officer to the Argyll and Bute District Asylum, Lochgilphead.

MCKAIL, DAVID, M.D. Glasg., D.P.H. Camb., has been appointed Lecturer on Forensic Medicine and Hygiene and on Public Health at St. Mungo's College, Glasgow.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHTON-UNDER-LYNE DISTRICT INFIRMARY.—Junior House Surgeon. Salary at rate of £75 per annum, with board, residence, washing, &c.

BIRMINGHAM [illegible]—Assistant Resident Medical Officer. Salary £104 per a[illegible]

BRIGHTON WO[illegible] Officer. Salary at rate of £[illegible] rations, and other [illegible]

[illegible] Medical Officer (female). [illegible]idence, and laundry.

[illegible]NERAL HOSPITAL.—House [illegible] annum, with board and [illegible]

CA[illegible]—Leprosy Research. Salary at rate of [illegible]

[illegible] and washing.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon; also Assistant Casualty Medical Officer; both unmarried, for six months. Salary in each case £30, with board and residence.

[illegible] &c.

LEEDS GENERAL INFIRMARY.—Ophthalmic House Surgeon for seven months. Salary at rate of £50 per annum, with board, residence, and washing.

[illegible] Salary [illegible]

NEW HOSPITAL FOR WOMEN, Euston-road, London, N.W.—Two House Surgeons and Clinical Assistant (females).

NORTHAMPTON GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £90 per annum, with apartments, board, washing, and attendance.

NORTHUMBERLAND HOUSE, Finsbury Park, N.—Assistant Medical Officer, unmarried. Salary £135 per annum.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with board, lodging, and washing.

POPLAR AND STEPNEY SICK ASYLUM DISTRICT.—Third Assistant Medical Officer. Salary £120 per annum, with rations, apartments, and washing.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—House Surgeon, House Physician, Junior House Surgeon, and Junior House [illegible]

QU[illegible]

RO[illegible]

Fellowship

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Assistant Surgeon.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, Ventnor.—Locum Tenens. *Three guineas weekly and travelling expenses.*

ROYAL NAVAL MEDICAL SERVICE.—Examination for 15 Commissions.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo [illegible] S.E.—Junior Resident Medical Officer. [illegible] with board and washing.

[illegible] HOSPITAL, King William-street, [illegible] Surgeon for six months. Salary £20, with board.

SEAMEN'S H[illegible] House Physicians. Salary £[illegible]

SOCIETY OF [illegible]

SOUTHAMPTO[illegible]PITAL.—House P[illegible]ard, and washing.

[illegible] House and Visiting Surgeon, [illegible] rate of £70 per annum, with [illegible]

[illegible] INFIRMARY AND EYE HOS[illegible]eon. Salary £50 per annum, [illegible]

[illegible]ary £100 per annum, [illegible]

[illegible] Resident Medical [illegible] board, apartments, [illegible]

[illegible] Chelsea, S.W.—Phy[illegible]

[illegible] Surgeon, unmarried. [illegible] washing.

[illegible]—Physician. Also Assistant Physician.

THE [illegible] notice of [illegible] Workshop [illegible] the county [illegible] Castletown [illegible] county of [illegible]

Births, Marriages, and Deaths.

BIRTHS.

[illegible] W., the wife of George [illegible]

[illegible] O., Norfolk, the wife of [illegible] a son.

[illegible]ife of V. Warren Low, [illegible]

MARRIAGES.

KIDSTON—FERGUSON.—On April 6th, at St. George's United Free Church, Edinburgh, *Noel Wallace Kidston, M.B., Ch.B., to Elsa,* younger daughter of John Ferguson, Edinburgh.

DEATHS.

[illegible] on the 14th inst., after a long illness, [illegible]der Brunton, Bart., M.D., and [illegible]

[illegible] years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

UNQUALIFIED DENTISTRY.

AN action was concluded in the Pontypridd county court on March 21st before his honour Judge Bryn Roberts and a jury. The action was brought by a tramway conductor named O'Brien against an institution trading as the Hygienic Institute of Pontypridd and Glasgow. The plaintiff alleged that the defendant's local manager, who was not a qualified dentist, extracted 12 of his teeth (four of them being sound teeth) very unskilfully, that his gums were much torn, that four days after the extraction they were still bleeding, that they had to be stitched, and that his health was impaired. Medical evidence as to the stitching was given by one of the staff of the Cardiff Infirmary. His honour pointed out that the liability here did not depend upon whether the defendant's servant was or was not qualified. They had held themselves out as competent to do certain work, and if it were not done skilfully they would be liable for the consequences. The jury returned a verdict of £60 for the plaintiff. This case is one more example of the dangers attendant upon unqualified practice. It is undoubtedly true that the mere fact of being qualified does not exempt a man from the consequences of unskilful treatment. But the difference between a qualified and an unqualified man is great, for the qualified man has had a thorough training and the unqualified has not. But there is a certain class of person who thinks nothing of intrusting his body to any adventurer who by the aid of a glib tongue and ingeniously worded advertisements sets out that he can cure various ills, although the same person would never think of intrusting the care of his horse or the management of his affairs to anyone but a trained veterinary surgeon or a trained lawyer. Such a man has only himself to blame if, as in the present case, he comes to grief.

HYPNOTISM: A DISCREDITABLE CIRCULAR.

PROBABLY some of our readers have received a circular signed "F. J. B.," care of Pearson and Sons, Printers, 34, Mark-lane, London, E.C., the writer of which expresses his readiness to teach the practice of hypnotism to medical men who may be prepared to pay for it. Such a circular is before us, from which we learn that the proposed "instruction will be private and a hypnotic subject will be provided to practise upon. Every phase of hypnotism will be explained, and as far as possible demonstrated, *without reserve.*" The anonymous would-be instructor supports his advertisement by recounting a few lightning cures wrought by his practice of hypnotic suggestion, and adds to them the following description of a feat which we can only call hypnotic doping. "The writer hypnotised a man entering for a boxing competition at 'Wonderland.' He had his nose broken, felt no pain, immediately attended the East London Hospital, where they expressed surprise that he should take it so coolly." "F. J. B." urges the utility of hypnotism as a therapeutic agent and after remarking that "the books on the subject are as numerous as they are useless," makes the absurd statement that medical men "know that with many of their patients their words can either kill or cure." Such a circular carries its own reprobation.

WORKHOUSE MEDICAL OFFICER AND POST-MORTEM FEE.

THE question of a medical officer of a workhouse not being allowed a fee for making a post-mortem examination on a workhouse inmate was raised by Mr. R. M. Going, medical officer at the East Preston (West Sussex) workhouse on April 7th. He applied for his fee, but the deputy coroner (Mr. A. W. Rawlinson) held that Mr. Going was not entitled, he being the workhouse medical officer. Mr. Going urged that the fee was allowed to other workhouse medical officers in the county, but the deputy coroner said the county auditor had disallowed such payments, and he (the deputy coroner) was advised that a workhouse doctor was not entitled to the usual post-mortem examination fee. The deputy coroner asked Mr. Going if he could give him any legal authority for the payment, whereupon Mr. Going said he would take steps to secure the necessary authority. There will, we fear, be some difficulty about this, but we have often felt that a medical man should be justly entitled to the usual fee for post-mortem examinations whether holding an official capacity or not.

LEPER ASYLUMS IN INDIA.

Sir J. Muir-Mackenzie, K.C.S.I., Member of Council of the Governor of Bombay, has recently opened a new leper asylum which has been erected by the Scottish United Free Church Mission, aided by a grant from the Government, at Khondia, Burkut, near Poona. Dr. J. Rutter Williamson, who presided on the occasion, said the conception of that new and large asylum originated with one of the secretaries of the Mission for Lepers in India and the East nearly six years ago. The society in question was founded in 1874 for the express purpose of caring for those afflicted and often repulsive members of society who in India and other Eastern countries were *so* numerous that they were often neglected and even starved. Since 1874 the work had steadily grown until now the society had lep asylums and homes, for untainted children of lepers in fewer than 76 places in India and the East, in every one of whi there were European ladies and gentlemen giving their time a thought to the care and treatment of the sufferers. These asylu were scattered over the whole of India from Kashmir on t northernmost frontier to the very south of the peninsula, and also Burma, Siam, Japan, China, Sumatra, Korea, and the Philippi Islands. This new asylum at Khondia had been built to accommod 200 lepers—100 men and 100 women. The society had at present un its care, in its various institutions, 8206 lepers and 613 untaint children. Though those figures seemed large they bore a very sm proportion to the total number of lepers in India, which was estima at about 400,000. Sir J. Muir-Mackenzie, in the course of address, observed that the necessity of establishing leper asylu had long been recognised by the Government, who had been preven from doing more only by the want of funds. The Government w well aware of the danger to which the public were exposed by unfettered wandering of lepers through the large centres of pop tion. To some extent they were provided with an instrument dealing with this danger in the Lepers Act, which enable magistrate in any area to which the Act had been applied to com an indigent or begging leper to an asylum. The Act, however, practically remained a dead letter, owing to the inadequate suppl asylums. This new building would help to remedy the evil so fa the district of Poona was concerned.

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T. B.—We have no knowledge of the preparation, so we regret t unable to help our correspondent.

COMMUNICATIONS not noticed in our present issue will receive atten in our next.

Medical Diary for the ensuing We

SOCIETIES.

CHELSEA CLINICAL SOCIETY, Chelsea Dispensary, Manor-s King's-road, S.W.

TUESDAY.—8.30 P.M., Dr. Dauber: Notes and Specimen of C Unusually Large Papillomatous Ovarian Cyst.—Dr. Blum The Nature of Sickness after Anæsthesia and the Best Me Preventing or Treating it.

HARVEIAN SOCIETY OF LONDON, Paddington Infirmary, Ha road, W.

THURSDAY.—8.30 P.M., Clinical Evening.

LECTURES, ADDRESSES, DEMONSTRATIONS

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Fields, W.C.

FRIDAY.—5 P.M., Prof. Keith: On Specimens illustrating Malfo tions of the Face. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Pernet: Clinique (Skin).
TUESDAY.—4 P.M., Dr. N. Pitt: Clinique (Medical).
WEDNESDAY.—4 P.M., Mr. J. Berry: Clinique (Surgical).
THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surg
FRIDAY.—4 P.M., Mr. G. French: Clinique (Ear, Nose, and Thr

WEST-END HOSPITAL FOR DISEASES OF THE NERV SYSTEM, 73, Welbeck-street, W.

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.
TUESDAY.—5 P.M., Clinical Demonstration: Dr. J. Mackenzie.
WEDNESDAY.—3 P.M., Clinical Demonstration: Dr. F. Palmer.
THURSDAY.—3 P.M., Clinical Demonstration: Dr. T. D. Savill.
FRIDAY.—2 P.M., Clinical Demonstration: Dr. P. Stewart. 5.30 Clinical Demonstration: Dr. E. Macnamara.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Dr. J. Atkinson: Pharynx and pharynx.
FRIDAY.—3.45 P.M., Lecture:—Dr. Abercrombie: Pharynx and pharynx.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-st Piccadilly, W.

TUESDAY.—3 P.M., Prof. F. W. Mott: The Brain in Relatio Right-Handedness and Speech.
FRIDAY.—9 P.M., Mr. A. Siemens: Tantalum and its Indu Applications.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-sq (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 West London (2.30 P.M.), London Throat (9.30 A.M.), Royal (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 St. Mark's (2.30 P.M.).

TUESDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's [illegible] (2.30 P.M.), London Throat [illegible] 2.30 P.M.), Throat, Golden- [illegible]), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

WEDNESDAY (21st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), West- [illegible] (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (22nd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. [illegible] (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. [illegible] Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (24th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 15th, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall.	Solar Radio in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks.
April 9									
" 10									
" 11									
" 12									
" 13	[illegible]	S.W.	[illegible]	[illegible]					
" 14	29 61	S.W.	0·10	102	60	51	51	53	Raining
" 15	30 00	S.W.	0·01	104	62	43	45	48	Fine

During the week marked copies of the following newspapers have been received:—*Derbyshire Courier, Gloucestershire Echo, Yarmouth Independent, Scientific American, Yorkshire Post, Yeovil Gazette, Star, Durham Advertiser, Richmond Times Cardiff Daily Mail, Birmingham Mail, Notts Guardian, Bradford Observer, Morning Leader, Wimbledon Boro' News, Westminster Gazette, Manchester Evening News, &c.*

Communications, Letters, &c., have been received from—

A.—Dr. J. Stanley Avery, Kroonstad; American Proctologic Society, Philadelphia, Secretary of; Mr. J. Astier, Asnières; Ardath Tobacco Co., Lond.; Messrs. Allen and Hanburys, Lond.; Ashton - under - Lyne District Infirmary, Secretary of; Ashover Sanatorium, Chesterfield, Secretary of; Messrs. D. Appleton and Co., Lond.

B.—Messrs. Blond and Co., Paris; Messrs. Burroughs, Wellcome, and Co., Lond.; Dr. T. Bates, Worcester; Messrs. J. Beal and Son, Brighton; Mr. S. N. Bose, Calcutta; Mr. E. Blatchley, Lond.; Mr. R. R. Bakshi, Rajkote, India; Blackburn and East Lancashire Infirmary, Secretary of; Dr. E. Brown, Southampton; Mr. R. P. Bryan, Plymouth; Dr. A. G. Bisset, Rothes; Mr. R. W. Burkitt, Ohandkhira; Dr. Carl H. Browning, Glasgow; Mr. W. A. Berridge, Redhill; Mr. J. A. Batchelor, Lond.; Miss Constance A. Barnicoat, Lond.; Mr. Alfred Butt, Lond.; Dr. W. T. Belfield, Chicago; Dr. Barnardo's Homes, Lond., Hon. Director of; Messrs. Blundell and Rigby, Lond.

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I.—Messrs. Ingram and Royle, Lond.; Incorporated Institute of Hygiene, Lond., Secretary of.

J.—Miss M. W. James, Lond.; J. M.

K.—Messrs. Kutnow and Co., Lond.; Dr. W. F. Keating, Reading; Messrs. G. Kelly and Co., Lond.; Mr. L. S. Khrishnan, Anandasramam; Mr. Maurice F. Key, Lond.

L.—Mr. H. K. Lewis, Lond.; Messrs. E. and S. Livingstone, Edinburgh; Staff-Surgeon L. Lindop, R.N., Invergordon; Leeds General Infirmary, Manager of; Leeds Hospital for Women and Children, Secretary of; Mr. F. W. Lowndes, Liverpool; Messrs. Luzac and Co., Lond.; Miss Livermore, Meonstoke; Mr. C. L. Lakin, Lond.

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An Address

ON

MOVEABLE KIDNEY, WITH DETAILS OF AN OPERATION FOR FIXING THE KIDNEY.

Delivered at the Annual Meeting of the Ipswich Clinical Society on Feb. 10th, 1909,

BY SIR W. WATSON CHEYNE, BART., C.B., F.R.S., F.R.C.S. ENG.,

SENIOR SURGEON TO KING'S COLLEGE HOSPITAL, ETC

GENTLEMEN,—The surgical treatment of moveable kidney is a question which has given rise to great diversity of opinion, the chief objection urged against the operation of nephropexy being that it often fails to remove the symptoms from which the patient has been suffering. Indeed, not infrequently the patient after a few months is as bad as, or worse than, before the operation. There is more than one explanation of this result. In the first place, the cases may have been unsuitable for operation—that is to say, the loose kidney has not been the whole or even the main cause of the trouble; in the second place, the operation may not have been satisfactorily performed and the kidney may not have been fixed in the proper position; and in the third place, the kidney may subsequently have become loose. Before going on to the consideration of these points let me first refer shortly to the conditions under which mobility of the kidney occurs, to the effect of this mobility on the kidney itself, and to the symptoms to which it may give rise.

In connexion with the occurrence of moveable kidney, I may point out in the first place that it is far more common in women than in men. Various estimates have been given by different authors from which it appears that on an average one case of moveable kidney is met with in about every 200 males, while in females there is one in every 22. It has also been said that it is more common in working women than in those of the better class, but this is not very clear. Nor is there much difference as regards its occurrence in married and single women respectively. In connexion with this difference in sex we have to bear in mind in the first place the greater narrowness of the lower part of the female thorax, and in the second place the arrangement of the clothing. It is very probable that the latter is the main cause of moveable kidney in the female. It is also a striking fact that moveable kidney occurs far more frequently on the right side than on the left side, something over 80 per cent. of the cases affecting the right kidney alone. This is probably in the main due to the fact that the left kidney is more efficiently fixed than the right, partly owing to the more complete development of the perirenal fascia, and partly owing to the shorter length of the renal vessels. We have to remember also that on the right side the right lobe of the liver occupies a large portion of the hypochondrium. Further, moveable kidney seems to be somewhat uncommon under 20 years of age It is most frequently met with in patients between 20 and 50 years of age, after which comparatively few cases are seen. It is said by some that moveable kidney is not infrequent in young children, but I cannot say that in my own experience I have come across many cases of real pathological mobility of the kidney, such a degree of mobility, for example, as to allow one to interpose a finger between the organ and the ribs. One may no doubt sometimes feel the lower pole of the kidney when the child breathes deeply. The majority of the cases of moveable kidney in children seem to be associated with the condition of cyclic albuminuria.

Coming now to the conditions which give rise to moveable kidney, a great variety of suggestions have been made. Thus it is not uncommon to attribute the mobility of the kidney to the disappearance of fat from the fatty capsule. It is held by some that the fat surrounding the kidney is an important element in keeping the organ in its place, but it is difficult to believe that semi-fluid fat can have much influence in this respect. Besides, in the real moveable kidney, the range of movement is far beyond the extent of the fatty capsule. And also in wasting diseases and under many conditions in which fat is lost, there is no evidence that there is an increased proportion of moveable kidneys. It is true that in cases of wandering kidney there is often a marked diminution in the amount of fat surrounding the organ, but this seems to be a sequel of the mobility rather than the cause of that condition. And in post-mortem examinations of patients with [illegible] been found that the fatty caps[illegible] satisfactorily developed, and of [illegible] amount, even though the patient be emaciated. Hence the treatment which is so often pursued of putting patients to bed and trying to increase their fat does not seem a very satisfactory plan. Flaccidity of the abdominal wall has also been mentioned, but although that may be an important point in connexion with the troubles which a wandering kidney may produce it is difficult to believe that it is an inciting cause of the trouble, and the fact that the condition is not more frequent in women who have borne children than in others is distinctly against this view. It has also been stated that increase in the size and weight of the organ tends to make it moveable. It may, no doubt, be to some extent true that in the development of a moveable kidney increased weight of the organ may help, but there is no evidence in support of the view that it is an inciting cause.

None of the foregoing explanations can be looked on as sufficiently satisfactory and we are left with two main views: one that mobility of the kidney is, in part at least, a congenital defect and the other that it is due to mechanical causes.

As regards the first point, it is important to remember that moveable kidney is often associated with the condition described by Glénard, and known as enteroptosis or Glénard's disease. In these cases it is part of the general looseness of the abdominal contents and is developed under the same conditions.[1] The degree of enteroptosis present varies much, and even a comparatively slight amount may cause much discomfort. The conditions which lead to the development of Glénard's disease point to a certain extent to a congenital defect, and I cannot but think that in some cases the groundwork of the mobility of the kidney is also of congenital origin. However that may be, I have no doubt that the development of the pathological mobility of the organ is in the main due to mechanical causes which come into play especially during young adult life.

Mechanical causes may be divided into two sets—namely, those which are acute and sudden, and those which act slowly and gradually. As regards the acute conditions, sudden dislocation of the kidney from various causes, such as a fall from a height or rapid bending of the body, are often spoken of. Violent coughing has also been mentioned as a cause, but patients subject to bronchitis do not seem to be specially troubled with mobility of the kidney. A blow in the lumbar region has been said to produce it, and also violent squeezing together of the lower part of the thorax or violent dragging of the abdominal muscles. None of these causes are, however, very definite, and there are very few cases on record in which there has been undoubtedly a sudden dislocation of the kidney. I fancy that in some of these cases, at any rate where we have a history of the sudden development of symptoms which have led to the discovery of a moveable kidney, the kidney has been moveable beforehand without causing symptoms, and that the injury to which the mobility is attributed has bruised the kidney against the ribs, &c., and thus attracted attention to the condition. It is difficult to believe that the ordinary moveable kidney is of sudden occurrence, because we have to account for the abnormal length of the pedicle and of the various fibrous attachments, which, if not congenital, must have taken a considerable time to develop.

Probably the most important causes of moveable kidney are those which act slowly, and of these the chief is no doubt the arrangement of the dress in the female. Two points are of importance in this respect, namely: in the first place the injudicious use of corsets, and in the second place, the way in which the clothing is supported by means of bands tied round the waist. No doubt in cases where real tight-lacing is indulged in the lower ribs tend to be flattened and thus the abdominal contents are driven towards the lower part of the abdomen. But where no such tight-lacing is employed the wearing of corsets is rather a protection than otherwise. Without corsets, or with very yielding ones, the bands which keep up the clothing tend to drag down the contents of the abdomen and are undoubtedly a potent cause of Glénard's disease. And when we consider the intimate connexion of the various abdominal organs with one another we can hardly have important organs like the intestines, especially the large intestines, dragging down without pulling on the kidney. This tendency is aggravated in the case of fashionable women by wearing high-heeled shoes, the result being that in walking lordosis of the lumbar spine is produced, the antero-posterior capacity of the abdomen is decreased, and the kidneys are projected from under the protection of the ribs. The result is that the bands tied round the waist act still more markedly in the way of depressing the abdominal organs. Once the kidney has become somewhat loose and passed to some extent from under the protection of the ribs it becomes exposed to injury from these constricting bands, and if they are applied towards the upper part of the organ the kidney is constantly pulled down by the weight of the clothes. The peristalsis of the intestinal coils, especially of the ascending colon, will also pull on the pedicle, and under these circumstances the increased weight of the organ itself will also tell, especially where the abdominal walls are lax. In this way a loose kidney may become transformed into a floating kidney.

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[1] THE LANCET, April 7th, 1906, p. 947.

On examining the condition of moveable kidney, either during an operation or post mortem, it will be found in the early stage that the mobility is limited to the post-peritoneal region, the organ moving upwards and downwards behind the peritoneum. As the case advances, the kidney may project the peritoneum forward, the posterior surface of which may thus form a pocket in which the organ lies, and the vessels and other structures in the pedicle become gradually stretched and elongated. Further, the kidney tends to become rotated, the lower end coming nearer the middle line than normal, thus pressing on the ureter and interfering with the free outflow of urine. This is most marked when the mobility is not great. As the kidney becomes looser the trouble arising from this cause diminishes.

Coming now to the second point—namely, the effect of this mobility on the kidney—we may say that in the majority of cases the substance of the organ does not undergo any marked alteration. Not infrequently, however, the wandering organ becomes small and atrophic, while on the other side compensatory hypertrophy takes place. In some cases there is dilatation of the pelvis of the kidney, in fact a hydronephrosis, which may be accompanied with kinking or twisting of the ureter, and gives rise to the condition known as intermittent hydronephrosis. We may also find in wandering kidneys a condition of chronic nephritis, along with fatty degeneration of the epithelium. In the later stages the kidney may become adherent to structures in the neighbourhood. Trouble of the gall-bladder such as gall-stones is also not infrequent. The stomach is at times markedly dilated and may either be in its normal position or the pylorus may be dragged downwards. The duodenum and the colon may also be dilated, and it is not uncommon to find a condition of general enteroptosis.

In the third place, I may refer shortly to the symptoms to which this condition may give rise. Very often they are indefinite, such as giddiness, faintness, tiredness, and sometimes also anæmia and palpitation. The patients are frequently hypochondriac, neurasthenic, and hysterical, and, according to Suckling, moveable kidney may lead to insanity. Neuralgic symptoms are not uncommon and there is frequently dull pain in the loin, which diminishes when the patient is recumbent but becomes more marked when she is in the upright position, and especially when lifting heavy weights. From the loins the pain spreads in various directions, while on the other hand one may find anæsthetic areas. A second group of symptoms are due to the involvement of the intestinal tract. As regards the stomach, the patients complain of a feeling of weight and fulness, loss of appetite, frequent eructation, and sometimes troublesome vomiting. These symptoms are partly reflex, and may indeed be produced by pressure on the lower pole, even in a kidney which has been fixed. Dilatation of the stomach is also not uncommon and has been explained by actual pressure of the kidney on the first part of the duodenum. But this is not likely, because when in a recumbent position the kid falls outwards. Jaundice may also occur from movea kidney, as the result of pressing or dragging on the com duct, as it comes in contact with the duodenum. Usu there is a tendency to constipation.

Various symptoms may also arise from twisting obstruction of the pedicle. The patient may be seized sudden pain, hæmaturia, small pulse, shock, rigors, &c. symptoms not unlike strangulated hernia or renal calc may occur. This condition may last for 24 hours and gradually subside. The kidney is enlarged and tender, urine increases in amount as the symptoms subside, and tains albumin and numerous white corpuscles. Th symptoms are due to kinking or twisting of the vessel the pedicle, leading to rapidly increasing swelling, pain, tension of the capsule, diminution of the secret and admixture of blood with the urine. In other cases the ureter which is kinked, leading to attacks of intermitt hydronephrosis.

Coming now to the treatment of these conditions, we two lines of treatment—one operative and the other operative. As regards the latter, the treatment cons essentially in attending to the general health and condi and relieving, as far as possible, any of the symptoms w may be present. In addition to that, attempts are to fix the kidney, either by increasing the fat of the pati a plan which seems to be quite futile and not in accord with the pathology of the disease, or by the applicatio various forms of apparatus, with the view of preventing kidney from dropping. The latter consist of belts pads or springs, so arranged as to press on the abdo below the level of the kidney, the hope being that in way the kidney will be prevented from descending. I however, but rarely, especially with a strongly devel abdominal wall, that these pads fulfil their purpose. T efficient they must be applied while the patient is the recumbent position, but as soon as she begins to ass the erect position the muscles lift up the pad and kidney is apt to escape, and either lies under the pa which case it becomes subject to injurious pressure, or below the pad, which then prevents it from returning the loin. The best form of apparatus is, in my experie specially constructed corsets, such as those used in the t ment of Glénard's disease, which keep up the whole tents of the abdomen. They may be reinforced by an pad in the right iliac fossa and are put on in the recum position.

The failure of these various attempts has led surgeon consider the possibility of fixing the kidney in its nor position by means of operation, but, as I hinted at beginning of this lecture, such attempts meet with consi able opposition, because they very often fail to attain t purpose. The first cause of failure is want of selectio suitable cases. In this condition one must be very car in choosing suitable cases for operation, because the kid is often not the sole, or indeed the chief, cause of patient's troubles, and also the condition is frequently as ciated with a large amount of neurasthenia.

As regards the cases which require operation, we may at once that cases where harm is being done—for exam where the pedicle frequently becomes kinked, or where condition of intermittent hydronephrosis has set in, where there is injurious pressure on the duodenum common bile duct—must be treated by operation. again, certain cases are suitable for operation where symptoms are less severe and where they mainly consi pain in the back when the patient is in the upright posit provided they are not associated with general enteroptosis.

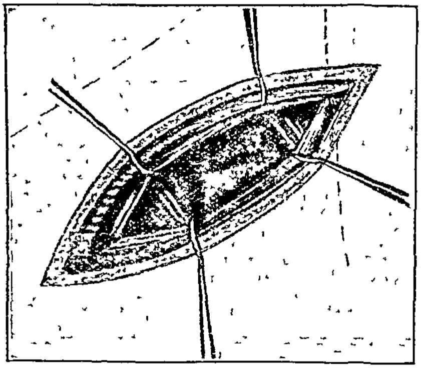
There are two classes of cases, on the other hand, in wh the question of operation is, to say the least, doubtful. the first place, moveable kidney is not infrequently associa with a greater or less degree of enteroptosis. Where th marked the fixation of the kidney is not likely to prod much, if any, benefit unless it is accompanied or followed some attempt to raise the other organs which have a dropped, and that means extensive operations, the succes which is by no means certain. Hence, in such cases it see the most prudent course to see what amount of benefit can obtained by properly constructed and fitted corsets and p before considering the question of operation.

The other set of cases in which operation is of v doubtful benefit is where the condition is accompanied w marked neurasthenia. The general experience is that in these cases not only may no benefit result but the state of the patient may be rendered worse. I have certainly come across a good many cases, especially in hospital practice, where this is the case. At the same time, it must be pointed out that in all these cases the operation has been done from behind, and, as I shall presently mention, it is by no means easy to fix the kidney in its proper position by that method. In contrast to this view, which is the one commonly accepted, there are some who hold that the presence of neurasthenia is, in fact, an indication for operation, and one of the strongest advocates of that view is Dr. C. W. Suckling of Birmingham. Indeed, Dr. Suckling goes further, and looks on moveable kidney as a potent cause of some forms of insanity, and he publishes a series of cases in which the mental condition has improved after the kidney has been properly fixed. In connexion with his statements the operation to which he refers is Goelet's, in which, no doubt, a more accurate position is obtained than by the ordinary posterior method. It is possible, therefore, that this question of operation in marked neurasthenic cases may have to be revised in future. However that may be, the view taken by many physicians that the operation of nephropexy is not a proper procedure, and that the only treatment for moveable kidney is general treatment, such as rest cures, &c., combined with support by belts and pads, is much too extreme There is no question that a considerable proportion of cases are immensely improved by the operation when it is properly performed and when the organ is fixed in its normal position and relieved from pressure by bands, clothing, &c.

Another reason for want of success of the operation of nephropexy is the fact that the kidney may again become loose and there is no doubt that in the earlier operations this did occur not infrequently, especially where the kidney was not brought into actual contact with the fascia on the posterior wall of the abdomen. Since, however, care has been taken in this direction, and especially where the capsule of the kidney is detached on the posterior surface of the organ, the probability of its becoming loose again is very much less

The third point, and the one to which I wish especially to draw attention to-night, is the importance of fixing the kidney, as far as possible, in its normal position, and thus avoiding outside pressure and kinking of the ureter or pedicle. The usual method of performing the operation is by means of a lumbar incision, but I have for some time been dissatisfied with this procedure, chiefly because I have found it very difficult to get the kidney into its normal position. The tendency is to fix it too low down and too far away from the spine, and I have therefore devised an operation which I think enables one to fix the organ in its proper position and which, so far, has given very excellent results.

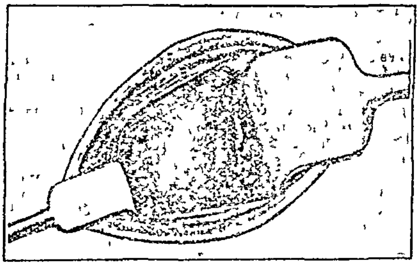
FIG. 1.



Incision down to transversalis fascia. External oblique divided and internal oblique and transversalis muscles retracted

[illegible]ails of this operation. The [illegible] a small pillow under the loin, [illegible]: it is not necessary to push the lumbar region very far forward. An incision is then made along the edge of the ribs and an inch below them, beginning about the edge of the latissimus dorsi, or practically just where, looking down on the patient, the anterior surface of the abdomen ends, and from this point it is carried forwards parallel to the edge of the ribs for from 3 to 4 inches. It is well to make the incision short in the first instance and it can be subsequently lengthened if necessary. The skin and fascia are then divided and also the external oblique muscle; the internal oblique and transversalis muscles can be partly separated and partly divided. They only require a little division here and there, and any nerves that are crossing can, as a rule, be pulled out of the way. One then comes down on the transversalis fascia (see Fig. 1) The fascia is not divided but is pushed towards the middle line, the peritoneum, fascia, and kidney being thus carried forward together. In this way there is less risk of tearing the peritoneum, and we also get at once to the posterior surface of the kidney, which can be easily felt. The edges of the wound being well retracted and the fascia and peritoneum being held well towards the middle line, and the kidney being fixed by the assistant's hand placed in front of the abdomen, the outline of the kidney can be readily palpated. A hole is now made in the perirenal fascia over the posterior part of the kidney, and the renal fat will at once protrude. This hole can now be enlarged vertically over the posterior surface of the kidney, and the fat being pushed outwards or removed the posterior surface of the kidney is exposed. The renal fat is then partly removed and partly pulled forwards with the perirenal fascia (Fig 2), and the kidney is gradually shelled out and can be readily brought out of the wound. The posterior part of the wound is then thoroughly cleared from fat till the diaphragm, the psoas, and the quadratus lumborum muscles are fully exposed. The fatty capsule and the posterior part of the renal capsule are thoroughly turned aside, and I think it is well to take away a good deal of the fat in case it should get in between the kidney and the muscles and prevent firm adhesion. The kidney is then turned forwards and incisions are made through the capsule on the posterior surface, as shown in the diagram (Fig. 3)—namely, a vertical incision running upwards near the inner side of the posterior surface and curving outwards at the upper part towards the upper and inner part of the posterior surface, and then a transverse incision running across the kidney at the lower end of this vertical incision. The capsule can then be stripped off as far as the convex border of the kidney. From each end of the lower transverse incision a small vertical incision is made through the capsule, and then this portion can be pulled down so as to hang downwards from the lower pole of the kidney (Fig. 4). The fatty capsule and loose fascia being prevented from getting in between the kidney and the posterior muscles, the kidney can now be turned back and placed exactly in the position which is desired; it can be put up as far as one wishes, and also at the proper distance from the spine. By means of strong catgut or silk

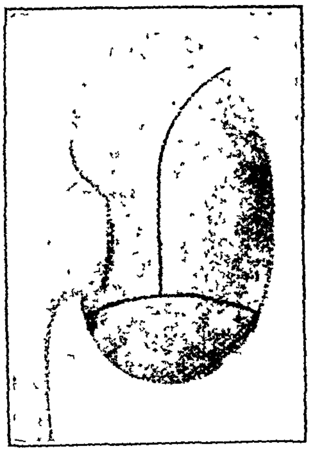
FIG 2.



Perirenal capsule pulled forwards and kidney exposed. About one-half size.

stitches the vertical piece of capsule is now stitched down to the muscles behind, taking care not to stitch it too tightly, because the natural tendency of the kidney is for the outer border not to be so closely in contact with the posterior wall of the abdomen as the inner border is. The piece of capsule which is hanging down from the lower pole is then stitched to the muscles below the kidney, and in this way the raw surface of the kidney is kept in contact with the surface of the muscles behind and acquires firm adhesion to them. The capsule at the lower part is strengthened by stitching down the detached portion of the renal capsule so as to form a sort of ledge on which the kidney rests. The kidney having been fixed, the peritoneum is then allowed to fall back into position and a few stitches will generally bring the deeper muscles together, while the external oblique is closely united by two or three mattress sutures and subsequently by a continuous catgut suture.

FIG. 3.



Incision in kidney capsule on posterior surface of the organ. Rather under one-half size.

Apart from the ease with which one can fix the kidney in its proper position by this operation, there is another great advantage in this incision. Everyone is familiar in cases of moveable kidney with the difficulty of being certain that all the symptoms are entirely due to that mobility, and that other important conditions are not also present, and may indeed be the main cause of the patient's trouble. The four chief things which have to be considered in such cases are: gall-stones, duodenal ulcer, moveable liver and enteroptosis, and appendix trouble, and it is not always easy to say whether the symptoms are due to moveable kidney or to one or other of these conditions.

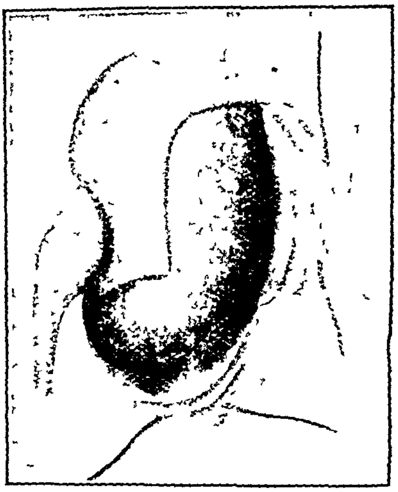
Now, with the ordinary lumbar incision one cannot as a rule make any investigation of the condition of these other parts, but with the incision which I have described it is quite easy to do so. By making an incision into the peritoneal cavity after having exposed the kidney, one can ascertain the condition of the various parts to which I have referred. A moveable liver, of course, is evident at once, even before the peritoneum is opened, and by extending the incision another inch or so forwards one can ascertain the condition of the gall-bladder and of the duodenum. In many of these cases also the colon is so moveable that one can pull up the cæcum and examine the condition of the appendix, or at any rate in trying to do so can ascertain whether adhesions are present or not, which are binding the cæcum down. And not only can these conditions be diagnosed, but some of them can also be remedied without making a further incision. For example, it is, of course, quite easy to stitch the liver up to the edge of the ribs so as to obtain adhesion between that organ and the diaphragm. And also, as in most of the cases of enteroptosis the hepatic flexure of the colon is practically non-existent, the colon can be fixed up to the under surface of the liver at the same time. And then the various conditions in connexion with the gall-bladder are quite accessible by extending the incision somewhat forwards.

As regards the duodenum, of course if it is necessary to do an anastomosis a separate incision will be required, but in all probability that would be left to another day, and in the meantime the exact state of matters has been made out. Similarly with regard to the appendix, if it is bound down by adhesions in the iliac fossa a separate incision will be advisable, and that can be done at the same time and before the upper opening in the peritoneum has been closed, so that one has the advantage of a double access to the appendix.

I have now performed this operation in a good many cases, and the more I do it the more I am satisfied with the results One leaves the operation with the feeling that the kidney has been put in the proper position, whereas I have always been doubtful when the operation was done by the posterior incision. Where, however, we have the condition of intermittent hydronephrosis present and have to perform some plastic operation on the ureter,[2] I think that the old oblique posterior incision is more useful; one gets a more direct access to the pelvis of the kidney by it than by the incision which I am recommending. But these cases are not very common and the condition is usually diagnosed before proceeding to the operation.

This operation was devised some time ago, but I see that in THE LANCET of August 3rd, 1907, p. 283, Mr. E. Stanmore Bishop has described an incision which is practically the same as in the above operation. The further steps of the operation are, however, quite different. Mr. Bishop cuts directly into the peritoneal cavity and carries out the remaining steps of the operation from that cavity. He divides the peritoneum transversely over the lower pole of the kidney and strips down the capsule from the front of the organ. Further, he does not make a point of clearing the fat, &c., from the posterior surface of the kidney. So that, except in the matter of the incision, the two procedures are quite different.

FIG. 4.



Capsule stripped from kidney. Rather under one-half size

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[2] THE LANCET, July 6th, 1907, p. 11.

NATIONAL LEAGUE FOR PHYSICAL EDUCATION AND IMPROVEMENT.—The Lord Mayor will preside at a meeting on behalf of the National League for Physical Education and Improvement at the Mansion House, at 4 P.M., on Wednesday, April 28th. The Bishop of Ripon, Lord Ashbourne, and Lord Halsbury will also address the meeting, and there will probably be other distinguished speakers. The meeting is to call attention to the work of the League and to emphasise the necessity for improving the physical welfare of the nation, whether for purposes of defence or of commercial prosperity. Application for tickets should be made to the secretary of the League, 11, Southampton-row, London, W.C.

Lumleian Lectures

RHEUMATIC FEVER AND VALVULAR DISEASE.

Delivered before the Royal College of Physicians of London on March 23rd, 25th, and 30th, 1909,

BY NORMAN MOORE, M.D CANTAB.,
F.R.C.P. LOND.,
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LECTURE I.

Delivered on March 23rd.

THE CLINICAL ASPECT OF RHEUMATIC FEVER.

MR. PRESIDENT, CENSORS, AND FELLOWS OF THE COLLEGE,—The learned person after whom the lectureship is named, to which you have been pleased to appoint me, inherited his estate from a grandfather who fought at Flodden Field. He was himself educated at Queen's College, Cambridge, where he entered in May, 1549, and he retained a taste for learning throughout a long life, in which, as Lord Lumley, he took an active part in the dangerous politics of the time. His wife, a daughter of the twelfth

belonged to Lord and Lady Lumley are evidence of their learned tastes, and were purchased at our benefactor's death for Henry, Prince of Wales. They are preserved in the Royal Library in the British Museum.

It seemed proper in expressing my own gratitude to the

of this lecture-

or achievements

lest you should feel as did King James I. on April 13th, 1603, when the Dean of Durham at Lumley Castle addressed him so elaborately on the history of the family that he grew tired and called out, "Oh! man; gang na further; let me digest the knowledge I have gained, for I did na ken Adam's name was Lumley."[1]

Rheumatic fever, on which I propose to lecture, is so common a disease that every physician has seen very many examples of it, yet its natural history is still obscure in several directions. Its name takes us back to a pathology long anterior to the revival of learning, and acute rheumatism, the commonest synonym for that name, indicates a pathological confusion not wholly dispelled from the medical thought of our own day. How little consideration had been given to the subject for many centuries is shown by the fact that the Aphorisms of Boerhaave, the elaborate summary of the whole medical teaching of the greatest medical teacher of his time, which were printed at Leyden in 1709, do not mention any of the numerous conditions to which the term "rheumatism" has been applied. Boerhaave was professor at Leyden, a city where the frequent chimes seem perpetually to remind one of the heroic conduct of its citizens in the defence of their liberties and of their noble choice of a University as the reward of their valour. His lucid teaching, his unremitting study, his vast learning, his delightful conversation, and his universal kindness made him the object of the respect and the admiration of many generations of students from every part of Europe. One of these, Gerard van Swieten, whom religious intolerance drove from Leyden to Vienna, where he became the most distinguished physician in the empire of Maria Teresa, published a famous commentary on the Aphorisms of Boerhaave which began to appear in 1741, and is to this day the best book for any man to read who desires to ascertain the state of the knowledge of medicine in the middle of the eighteenth century. Van Swieten, in the commentary on the 1490th Aphorism of his teacher—"There is a disease allied to the arthritis, gout and scurvy, which is very common, and is called the Rheumatism"—relates that this subject was first treated in the third edition of the Aphorisms, published in 1722. It "was now mentioned because Boerhaave had himself that year suffered excruciating tortures from this disorder. ...... As long as he had the care of the botanical garden he was constantly there before sunrise; not only in the summer but in the spring and autumn seasons, that he might prepare everything ready for his academic lecture, which he read at 7 o'clock in the morning. I well remember that in the year 1721 he suffered rheumatic pains in his scapula and neck, which were exceedingly troublesome, as in one of the hottest summers he gave advice to a vast concourse of people, in a very cold part of the house in which he lived, not so warmly clad as was requisite: but in a short time after the disorder gave way; but the following year it returned with the greatest violence. ...... When he was well and spoke before his scholars concerning the Rheumatism, about the end of June in the following year, he said for near three months he had endured the most excruciating tortures and at length was so relaxed, that no motion, and scarce any sensation, remained in his lower limbs. He added that, as soon as the pain remitted, he began to run over in his mind all the authors, both ancient and modern, that he had read; for the attention to his own pains excited him: but at the same time he remarked, he had not found anything of consequence in any, excepting Sydenham. ... .. Under this name (Rheumatism) he every year described to his pupils the malady he suffered." Thus the malady of Boerhaave, whatever may have been its true pathological species, was the cause of the introduction of a chapter on rheumatism into every subsequent general treatise on medicine.

Sydenham's remarks on rheumatism prove that he had recognised rheumatic fever, and he is, I believe, the first physician who did so and deserves to be regarded as the discoverer of the disease, though parts of his account show that, like all subsequent writers on the subject, he did not precisely define it nor always distinguish its pains from others of different origin. His description of the symptoms is clear and nothing of the kind is to be found in any earlier writer. He says: "It begins with shivering and shaking and presently heat, restlessness, and thirst, and other symptoms follow, which accompany a fever. After a day or two, and sometimes sooner, the patient is troubled with a violent pain, sometimes in this, sometimes in that joint, in the wrists and shoulders, but most commonly in the knees: it now and then changes place and seizes elsewhere, leaving some redness and swelling in the part it last possessed. At first for some days the fever and the symptoms above mentioned happen sometimes together; but the fever goes off by degrees, the pains remaining, and sometimes rage violently. . ... It may be asked why medical authors have not touched upon it, unless it be supposed this is a new disease. However it be, it is frequent enough now, and though it seldom kills anyone when the fever is off, yet upon the account of the violence of the pain, and the continuance of it, it is not contemptible." Another sentence of Sydenham—"When this disease is not accompanied with a fever, it is often taken for the gout, though it differs essentially from that, as plainly appears to anyone that well considers both these diseases"—probably suggested the writing of a classical passage in the "Commentaries on Diseases," published in 1802, of the Dr. William Heberden whose portrait in extreme age is in our Censors' room. Heberden, in this passage, gives the distinguishing characteristics of gout and then says: "These appear to me to be *the marks of the genuine gout, in almost every one of which* it differs from what I would call the rheumatism. For this does not begin in the foot preferably to any other part, and it seldom continues long in the same place, but will be perpetually wandering over the whole body, even during the first fit, which *has been known to last for* several months. Rheumatic pains will come on suddenly and without any preparatory symptoms. In rheumatisms the chief pain arises

[illegible] which while at rest gives for

of lassitude, than of

of the skin if there be any is not a deep red but rather a *faint* blush. *A severe* fit of the rheumatism often happens without ever returning throughout a very long life, and hardly ever makes periodical returns like the gout. Rheumatic pains very rarely desert the muscles and joints *to seize upon the vital parts.* Very young children will labour under violent rheumatisms; and particularly those who have in them by inheritance the seeds of a gout, with which they are to be afflicted when they arrive at manhood. These are according to my judgement the principal characters of the two distempers; but it must be owned that there are cases, in which the criteria of both are so blended together, that it is not easy to determine whether the pains be gout or rheumatism."

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[1] Stow's Chronicle

That children are attacked by acute rheumatism is almost the only addition made to the description of Sydenham by the observant Heberden, while his general definition of the disease is less precise than that of Sydenham. It was certainly this admirably drawn contrast of Heberden's which suggested a similar passage in the writings of Sir Thomas Watson, whose medical knowledge and pleasant style caused his book to be widely read and often republished: "In gout the small joints are first and chiefly affected, especially the joint of the great toe; in rheumatism the large. The redness of the gouty inflammation is more bright and vivid than that of the rheumatic; and the fluctuations between agony and ease [illegible] frequent. Gout usually affects one [illegible] iatism usually several at once. The [illegible] ended with turgid veins and with more œdema than in Rheumatism; and is followed, in the majority of instances, by desquamation and itching, phenomena which we do not notice at the close of rheumatic inflammation. Gout is not attended with those drenching acid sweats which are so characteristic of acute fibrous rheumatism. The gout is decidedly hereditary: rheumatism though probably hereditary too is much less distinctly so. The gout occurs rarely or never, whereas rheumatism is not very uncommon before the age of puberty. In gout though many functions suffer, and especially the digestive functions, there is no tendency to carditis: in rheumatism with far less general disturbance, but more fever, that tendency is very well marked. Gout is often, rheumatism is never, associated with chalk stones."

These connected passages from the writings of the three great English masters of medical description—Sydenham, who wrote in the time of Dryden; Heberden, who was a contemporary of Johnson; and Watson, whose last entrance to our Comitia, when the whole College stood up to show him respect, I can remember—all contain confusions from which the expressions of more modern physicians are not wholly free. Sydenham's account, at first clear and admirably describing rheumatic fever, goes on to associate it with quite different conditions, as he also does in his account of the case of the apothecary Malthus in his Epistle to Dr. Brady on the Epidemical Diseases from the year 1675 to the year 1680. Heberden's clinical distinctions show that what Sydenham thought might perhaps be a new disease had not at the end of another century become perfectly familiar to physicians. Watson alone mentions the "tendency to carditis" which had first been observed by Dr. David Pitcairn, who taught at St. Bartholomew's Hospital, to which he was physician from 1780 to 1793, that valvular disease was a frequent result of rheumatic fever.

The history of the attainment of exact knowledge about each particular disease is generally that some prominent symptom has first been noticed and has long been assumed to be the whole disease, and that progressive observation has gradually demonstrated that this prominent symptom may be a result of several distinct morbid conditions. Thus the single disease of past generations of medical authorities comes to be divided into a number of diseases. These for a time continue to be spoken of as if they were related conditions, and finally the partial relation of some and the absolute distinctness of others come to be recognised. The wide meaning of the original term is forgotten and it is applied in some different way or less often falls into disuse. It is easy, for example, to recognise in old writers under the heading "Asthma" cases of some forms of tuberculosis of the lungs, of emphysema, of fibrinous bronchitis, and of laryngismus stridulus, and under that of "Diabetes" of chronic interstitial nephritis as well as of the group of pathological conditions now included under that general designation. The term "rheumatism" is at present undergoing this process. "And rheumatism I send to rack the joints" is a line of Dryden quoted by Johnson in his dictionary, and shows the general sense attached to the term since the poet's time. Physicians were very little more particular and were content to say with Heberden: "The rheumatism is a common name for many aches and pains, which have yet got no peculiar appellation though owing to very different causes." From this general statemer terms "chronic rheumatism" and "acute rheuma became fixed in use, and this terminology, add certain misunderstood phenomena, led to the vie prevalent among the public, and not always re by practitioners of medicine, that the pains co in the muscles and joints of the aged and continuin intervals for years are a long lasting form of the feve swelling and pains in the joints which occurs in attacl few weeks' or days' duration in the young. The anatomy of these two groups of cases is sufficie demonstrate their absolute difference. In what is chronic rheumatism well-marked arthritic changes are such as bony induration, ankylosis, degenerati destruction of cartilage, while permanent morbid c in joints form no part of the post-mortem appearan acute rheumatism, as these may be studied in those p whose death has been due to the consequences of v disease in the first half of life. It is clear fro evidence that the several forms of chronic a have no relation to rheumatic fever. Since it is de to avoid the suggestion of any pathological relat chronic rheumatism the term "acute rheumatism" fall out of use and the words "rheumatic fever" be inv employed.

Various forms of septic arthri [illegible] rheumatism is one, are imperfect [illegible] condition on the side of arthritis, [illegible] carditis several conditions due to ascertainable bacilli doubt sometimes placed under the heading of "Rhe Fever." I shall venture to consider some of these con without relation to bacteriology which at present give that precise guidance which it is likely in futur to offer and without the confirmation of which, determinations can only be regarded as approximate.

In the attempt to define clearly rheumatic feve necessary first to consider two diseases which are son confused with it: gonorrhœal rheumatism and prog destructive endocarditis, often called "malignant carditis" or "ulcerative endocarditis."

The close relation in time to scarlet fever which e regards the arthritis and endocarditis which som appear in that disease makes it unnecessary from the point of view to discuss its differentiation from rhe fever. It would promote clear understanding if the a which sometimes follows a proved urethral growth o coccus were included under the general heading of " rhœa," a term sufficiently expressing that infection, the name "gonorrhœal rheumatism" were to be alto disused. Before the modern improvements in s which have made cases of pyæmia very rare possible to see in the post-mortem room the b some patient with a suppurating operation wound, of whose joints and perhaps his pericardium con pus. This condition of pyæmia is the type of what when an arthritis succeeds the onset and accompan progress of a gonorrhœa. The centre of infection in th in such a case is the urethra, and if the heart sho affected, as it occasionally is in the endocardium o cardium or both, the source of the organisms which in is the urethra just as the suppurating wound is the cen infection and the source of the arthritis in pyæmia. observation which in my experience may be made in such case of complicated gonorrhœa, that the arth never cured while any urethritis remains, shows th gonococci in the urethra are the stock whence those joints are derived. The comparative rarity of endoc in such cases shows that the endocardium, like a joint be regarded as a point on the periphery of the in circle, of which the centre is the urethra. This arth gonorrhœa might generally be distinguished from rhe fever, quite apart from discovery of the urethritis, a true nature may safely be conjectured from clinical ob tions, though the patient have no urethral pain and o occasional urethral discharge, or one in which the prese the gonococcus has not been demonstrated. The swellin tenderness are not confined to joints or even to their diate neighbourhood, but are spread in the line of te or over the area of aponeuroses and fascia. The p fascia is very often affected. There is a sense of stiff the affected joints and both this stiffness and the pai longer than in rheumatic fever. Endocarditis is necessary part of the disease and, as a rule, no physical signs indicating it are present. Permanent damage to a joint often seems about to occur and sometimes does occur.

Out of 11 cases under my care at St. Bartholomew's Hospital during the years 1903 to 1907 the plantar fascia was painful in four, and large areas of the calf and forearm in two others, in addition to the arthritis of particular joints. Marked stiffness was present in seven and led to rigidity of the wrist-joint in one. A raised temperature persisted for three weeks or more in five of the cases without signs of any pleurisy or pericarditis. In one case there was on admission disease of the mitral valve causing regurgitation and in this case pleurisy also occurred during the illness. In the other 10 there were no signs of endocarditis throughout the illness. Permanent damage to joints took place in six cases, slight in five, and accompanied by extensive ankylosis in one. The whole aspect of the disease is seen to be entirely different from that of rheumatic fever in the duration and character of the pains as well as to some extent in their locality, and in the absence of infection of the endocardium and the frequency of permanent damage to joints. The temperature chart is not the same as that of rheumatic fever which is under treatment by salicylates. This difference may be stated briefly by saying that the approach to the line of 100° is generally more frequent during the first three weeks and is more often continued into several weeks than in rheumatic fever.

The clinical distinction of ulcerative endocarditis from rheumatic fever is sometimes difficult, and most observers have, I should think, long remained in doubt whether they have before them two distinct diseases or merely varying results of the same infection. The bacteriological evidence does not at present solve the problem. The two diseases, however, may generally be distinguished by clinical observations. In a case of ulcerative endocarditis the patient is often remarkably contented or even cheerful and has not the pained position and expression common in [illegible] This frame [illegible] and who, in spite of high [illegible] s, is invariably placid and [illegible] n most cases of ulcerative [illegible] rom swelling. Out of nine cases under my care no joint pain existed in seven. The temperature chart, however long the disease may last, always shows high temperatures, [illegible] days of each week. I[illegible] reaches 104° F. often; but in others 103° or 102° is the highest point, and in either case this high degree is reached again and again. Sometimes no cardiac murmurs are heard, more often they are plain and vary a little from week to week. Evidence of emboli, such as enlarged spleen, hæmaturia, or hemiplegia, is o[illegible] arteries of a limb are sometimes [illegible] appear on them or on other vessels. The illness may go on for a very long time, but the patient never recovers. Sometimes it is clear that the patient has had rheumatic fever and had a heart damaged by that disease before the ulcerative endocarditis began. Out of the nine patients above mentioned four had had rheumatic fever years before, and one had a heart which had probably been damaged in relation to scarlet fever. These syn[illegible] to distinguish a case of [illegible] rheumatic fever. It may be added that treatment by salicylates is without any effect on the symptoms or temperature chart of ulcerative endocarditis. My conclusion, from a clinical point of view, is that rheumatic fever is a distinguishable disease of different origin from the other morbid conditions which include arthritis amongst their symptoms.

The cardinal features of rheumatic fever are endocarditis and arthritis. Endocarditis is always present. In most cases, but not in all, it produces some permanent alteration in one or more valves. This endocarditis of rheumatic fever is the chief cause of the varieties of valvular disease met with in patients under 30 years of age. If the heart in a slight case is only auscultated at the beginning and end of the disease the sounds may sometimes seem to be unaltered and it may be assumed that they have been normal throughout; but if the heart is examined daily changes in its sounds will, in my experience, always be discovered, which, taken with the evidence of the frequency of definite valvular disease as a result of rheumatic fever and with the frequency of a history of rheumatic fever in cases of valvular disease belonging to the first half of life, justify the belief that these variations in sound may be taken as evidence of the presence of endocarditis, even though no permanent valvular lesion be produced.

Out of one hundred cases of rheumatic fever under my care in St. Bartholomew's Hospital murmurs indicating valvular disease were distinct in all but one. In the solitary exception, that of a man, aged 24 years, who had first had rheumatic fever the year before that in which I saw him, pericarditis was present with a very loud friction sound which may have obscured an endocardial murmur. The friction sound remained after the fever had disappeared and I was never able to hear any murmur. Many of the patients gave a history of previous attacks, some of them certainly were in their first attack. The slight degree of arthritis which is sometimes present in a first attack of rheumatic fever in a child often leads to its non-recognition by a parent and patients who are suffering from the disease later in life and who have suffered from it more than once before—a very common case—are often found to be very inaccurate in fixing the date. When a child with rheumatic fever is said never to have had an attack before, but is said to have had chorea a year before, it will be far more often true that another attack of rheumatic fever preceded the chorea than that the existing attack is the first one. A patient of the age of 28 years may easily remember an illness of childhood in which he was confined to bed with severe pains in the joints, but slighter attacks of pain are easily forgotten. Every man has his own memory by which to test the powers of memory possessed by others. The recollection of physical pain and of slight illness is especially transitory. Few pains are more severe than that of toothache, but who can mention the dates in his life or even the years in which he had toothache? Even when an event is impressed upon the mind by some special act in relation to ourselves its precise date is rarely remembered even by highly trained minds. The Fellows of this College each receive half-a-crown in the College on the Monday after Palm Sunday, but how many of them could write down on what day of the month those Mondays were or who on each particular occasion sat to their right hand and their left in the Comitia? We generally expect too much from the memory of our patients. I have therefore not attempted to say how many of these one hundred patients with rheumatic fever were suffering from their first attack. 63 were males and 37 were females. As regards age they were thus distributed:—

63 Males.

To 5 years	1	To 25 years	5
„ 10 „	14	„ 30 „	4
„ 15 „	20	„ 35 „	3
„ 20 „	13	„ 40 „	3

37 Females.

To 5 years	3	To 25 years	5
„ 10 „	4	„ 30 „	4
„ 15 „	10	„ 35 „	3
„ 20 „	7	„ 40 „	1

In 44 males and 29 females the mitral valve alone was affected; in nine cases, all of males, the aortic valves alone were affected; in eight males and eight females both the mitral and the aortic valves were affected; in one male the pulmonary and aortic valves were affected; and in one case, as already mentioned, a very loud friction sound made it impossible to determine the presence or absence of valvular disease. In seven other cases, in all of which the mitral valve only was affected, pericarditis was present, so that pericarditis occurred in only 8 per cent. of the whole. The question of whether endocarditis or pericarditis was the more common in rheumatic fever was frequently discussed by the generation which flourished between 1830 and 1860, but at the present day the reply must be that while pericarditis is a somewhat rare incident of the disease there is evidence of endocarditis in every case.

Taking the history of 100 cases of valvular disease lately under my care in which the patients were of the age of 30 years or less, 60 gave a distinct history of rheumatic fever, and in 100 cases in which the patients were over 30 years of age, 46 gave a history of rheumatic fever These 200 patients were none of them included in the 100 cases of rheumatic fever mentioned above. The 200 cases show the frequent occurrence of rheumatic fever as a cause of endocarditis. It is probably correct to say that three-fourths of the cases of valvular disease which are seen in patients under 30 began in the endocarditis of rheumatic fever, and that half of the cases of valvular disease in patients over 30 began in the same disease. The 100 cases may be taken as proving that endocarditis is invariably present in rheumatic fever. It must be regarded as the central condition in the disease. If no evidence of endocarditis is to be found throughout an illness of which a symptom is arthritic pain then that illness is not rheumatic fever, and the arthritis has some other cause.

Sir William Selby Church, one of the latest writers on rheumatic fever, does not believe that endocarditis is invariably present. "It is difficult," he says, "perhaps impossible, to determine during an attack when endocarditis begins, for it gives rise to no special symptoms, but in a large majority of cases if no endocardial murmur be present during the first ten days of an attack the endocardium escapes." This is certainly the prevalent view, but my own observations lead me to a different conclusion. I have found that in every case of first attack of rheumatic fever the presence and sometimes onset of endocarditis may be inferred from the alterations in the heart sounds. In later attacks where valvular disease with a loud murmur or murmurs existed before the onset of the arthritis, minute differences of sound are less easily detected, but progressive alterations in the valves as well as, in many cases, diurnal or weekly alterations of sound, with rises of temperature after arthritic changes have ceased, satisfy the observer that endocarditis is present.

The deepest symptoms of rheumatic fever are alterations of the heart sounds and can only be discovered by a trained observer. The most obvious are pains in the joints accompanied by swelling and often by redness of the skin over them. The patient himself is distressed by the pain and anyone at his bedside may see the swellings or the redness. This part of the disease is matter of common knowledge, while detection of the endocarditis belongs to the arcana of medicine, discoverable only by a skilled method of observation and a trained sense of hearing. This prominence of the external over the internal symptoms was still more marked when, owing to the want of any remedial drug, the pains lasted for more days than they do at present, and at the same time the practice of auscultation was less assiduously pursued than it now is. The well-known fact that the size or number of the joints affected has no direct relation to either the severity of the endocarditis or to the seriousness of the consequent valvular disease supports the view that the endocarditis is the primary lesion in rheumatic fever.

The point of entrance of the organism which seems likely to exist, though its presence has not been proved, has sometimes been suggested to be the tonsils. A slight degree of sore-throat and sometimes a severe angina faucium may be present at the beginning of an attack of rheumatic fever, but is not found sufficiently often to justify the belief that swollen tonsils are the first anatomical change of the disease and that it is through them that the organism enters the system.

The common expression that the pain flies from one joint to another—say, from the left ankle to the right knee—is, of course, merely a relic of the Hippocratic doctrine of metastasis. When an empyema[2] succeeded a pneumonia, or an obvious pleurisy was followed by a pneumonia, the Hippocratic school held that one disease had been converted into another, and thus it was easy for them to regard an inflamed ankle on one side as converted into an inflamed knee on the other. This form of words belonging to an obsolete doctrine ought at the present day to be avoided in teaching medicine at the bedside, since expressions, as distinct from mere terms, of archaic pathology easily continue to have influence on the mind of our own day in a way detrimental to a clear understanding and view of disease.

Whatever the point of entrance and line thence of travel, the endocardium is to be regarded as the invariable centre and primary region of growth of the organism of rheumatic fever and the swollen joints as so many colonial settlements proceeding thence.

The affected joints of rheumatic fever always recover completely; not a single case of stiff joint was to be found i the cases of the last six years in my wards. The knee-joir is one which is very often attacked in rheumatic feve perhaps more often than any other. The presence po mortem of a mitral valve showing thickened edge, thickene tendinous cords, or small growths upon its cords or edge ma be taken as indicating that the person in whose body it found has had rheumatic fever. When I have opened th knee-joints in young patients who have died from the resul of disease of the mitral valve I have never found the remair of changes in the structures of the joint, neither thickenir nor degeneration. Some of these cases may have acquire their affection of the mitral valve otherwise than by rhe matic fever, but the percentage of cases in which mitr disease is the product of rheumatic fever is so large that th exceptions as regards other ways of origination of mitr disease do not affect the argument. In old hospital not any accounts of cases of rheumatic fever terminating in sti joints, or of stiff joints attributed to past rheumatic fever, ma be suspected to have been examples of some form of septi arthritis or of progressive or degenerative arthritis and not true rheumatic fever.

After the endocardium and the joints the temperature rheumatic fever next deserves consideration. The wel known papers of Dr. Henry G. Sutton in the Guy's Hospit Reports for 1865 and 1866, entitled "Cases of Rheumat Fever Treated for the Most Part by Mint Water, *Collect* from the Clinical Books of Dr. Gull," unfortunately give evidence as to the temperature attained or continued wh the disease was left to follow an uninterrupted course, for th thermometer had not then come into regular use in th hospitals of London.

In the 100 cases in my own wards which I have alread mentioned the effect of a treatment by salicylate of so must be allowed for. Doses of not less than 10 grains n more than 20 were given during the febrile period of t disease, for one, two, or three days every four hours, th every six hours for a period regulated by any remains of pa or unusual rise of temperature, and succeeded by a long continuance of administration three times a day. This w the general plan of treatment, the patient being kept in b with a few exceptions till the temperature had been norm for three weeks. The commonest temperature chart was o in which the temperature on admission being 100° or high it rose to a less height the next day, and perhaps still less the third day, and then continued normal for some days, aft which it rose to 99° or a little above 99° on some one day or tw days of a fortnight or three weeks and then steadily continue normal or subnormal for three weeks, after which the patie left the hospital. The slight rise on one day, or continue for two or three days, of the week succeeding a pause several days which itself succeeds the first definite fall temperature to the normal point is characteristic. When th chart presents a different aspect circumstances which expla the greater or longer rise can generally be discovered. A fe examples may be given :—

A girl, aged 10 years, was admitted to the hospital for what seeme to be her first attack of rheumatic fever. On admission her temper ture was 101 5° F., on the next day it was 99 8°, and it was then norm till the sixteenth following day, when it rose to 99 2°. It was the normal for two days, then it rose to 99°, then it was normal for fo days, and then it rose to 99°, after which it remained normal.

A girl, aged 16 years, who had had a previous attack, had a temper ture of 99° F. twice in the first week and one of 98 6° in the secon week, and no further rise.

A woman, aged 20 years, who had had three previous attacks, w admitted with a temperature of 99° F. and on the next day h temperature was 99 8°, on the day after it was 98 6°, on the day aft that 98 8°, and then it was normal or subnormal for 13 days It the rose on two successive days to 99 2° and then it became normal for eig days, then it rose to 98 8°, was next normal for five days, and after th continued for some weeks more, with rises of a degree or a few tent of a degree separated by intervals of several days, finally reaching continuous normal temperature.

A woman, aged 19 years, in her first attack had on admission temperature of 102 8° F. On the next three days it was successivel 101·8°, 99 8°, and 99 4°, and was then normal for two days, then reached 99°, and [illegible] then it was once mor 99° and then it c [illegible]

A boy, aged ni [illegible] mperature of 102 4° On the next two days his temperature rose to 99° and then it wa normal for 15 days. After one day at 98·8° it was normal for three day then on one day 98 8°, and then normal for 18 days, after which he le the hospital.

Variations or interruptions of this course of temperatu are generally due to ascertainable causes and in rheumati fever, as in all other diseases, a constant consideration n merely of the daily temperatures but of the whole chart is important. Pericarditis always produces a rise in temperature of some days and may thus be inferred before a friction sound is audible. A boy, aged four and a half years, who had had pain in his knees for three weeks was admitted with a temperature of 100·8° F. and *his temperature approached*, or slightly exceeded, 100° for eight succeeding days. On the second day of his admission a friction sound was heard over his heart and was audible *for two days.* The abnormal rise of temperature was certainly due to pericarditis. Pleurisy in the absence of bacteriological evidence as to its nature must be believed to be an *actual part of the* cycle of rheumatic fever, and, of course, affects the chart. Bronchitis, common in patients with rheumatic fever, whose hearts are embarrassed by valvular disease of long standing, similarly affects the course of the temperature, though it remains uncertain whether it or the pneumonia which sometimes occurs are a true part of the rheumatic fever. Attacks of sore throat and common colds are other influences to be considered in contemplating the *temperature chart.* Whoever studies cases of rheumatic fever will become convinced that slight rises of temperature are never unimportant, and that considerable rises of temperature at exceptional times can generally be explained if sufficient search be made.

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[2] Cf. ΠΕΡΙ ΠΑΘΩΝ, cap ix.

The grounds for the diagnosis of rheumatic fever are: (1) evidence of the results of endocarditis; (2) a multiple transient arthritis; and (3) a temperature chart showing an *initial rise followed* after a fall by occasional rises with intervals of normal temperature and with evidence of the existence of some disease for a considerable period, seldom less than three weeks. The diagnosis ought not to be made till these three factors are ascertained. If endocarditis be clearly present without arthritis ulcerative endocarditis, and not rheumatic fever is likely to be the true diagnosis. The same is true if there be a temperature chart of high oscillations with uncertain evidence of endocarditis but signs of disturbed heart and no arthritis. If there are no signs of endocarditis and a multiple arthritis at present, then [illegible] fever is the [illegible]h there be sig[illegible] of the affected joints come to show signs of permanent damage. *It should be added that a culture may be the only way of* ascertaining whether the gonococcus or some septic organism is the origin of the condition which after some resemblance in symptoms to rheumatic fever leaves the patient with a stiff joint.

The term "subacute rheumatism" should never be used, for it suggests an absence of importance which attaches to no case, however slight, of rheumatic fever. Just as the prevalence of the idea that *petit mal* in some way means that the patient said to have it is not an epileptic, while in fact his next fit may be a most serious one, does harm, so the term subacute rheumatism, by suggesting that the case is of less importance than one of rheumatic fever, does harm. The pains are very slight in such cases, but the endocardium is none the less affected and they are often merely periods of slight endocarditis leading to or threatening more severe manifestations in the future.

Every case of chorea in which there is a cardiac murmur, accompanied by rise of temperature, must be regarded as connected with an attack of rheumatic fever, perhaps best as the continuation of such an attack. It is probable that some cases of chorea in which a valvular murmur can be heard but in which the temperature, even when taken regularly for weeks, shows no rise, are also actual continuations of rheumatic fever, and there are perhaps some cases in which the endocarditis is so nearly quiescent that there are neither murmurs nor rises of temperature and which yet have grown out of an attack of rheumatic fever and may pass on into another such attack. Spasmodic and incoördinate movements in children may be due to several causes, but it is important to recognise that what is sometimes called rheumatic chorea is a definite species of which a cardiac murmur due to the same endocarditis as that of rheumatic fever and a temperature showing occasional rises, are symptoms. The first question when a case of chorea is before us is to determine whether it belongs to this species, and if it does the patient for purposes of treatment may be assumed to be in the course of an endocarditis less severe than it is in a definite attack of rheumatic fever but capable of aggravating or producing injury to the cardiac valves and especially to the mitral valve.

The administration of sodium salicylate so commonly relieves the pains in the joints as well as reduces the temperature in rheumatic fever that whenever it is found in any case that sodium salicylate has no effect, even in a large dose, the suspicion will arise that ulcerative endocarditis, a *gonococcal infection, or some other condition* and *not true* rheumatic fever is present.

The disease belongs to the first half of life, though, like measles, mumps, and some other morbid conditions of childhood and youth, it may appear for the first time in the second half of life, but here again the difficulty of certainty as to a patient's true history often raises doubt as to whether his earlier life has been free from any attack. In the absence of bacteriological evidence it is impossible to be certain, but as a result of the observation of a few supposed first attacks between the ages of 35 and 45 years I incline to the belief that rheumatic fever does now and then attack a patient at that age. Before the diagnosis is made great care should be taken to ascertain that no septic source, such as a uterine one in women, exists, or has recently existed, in the patient.

The duration of rheumatic fever is indefinite. The exact day of its commencement can rarely be fixed. In many cases the state of the heart proves that the disease has been in progress for some time before the patient is aware that he has a definite illness. The date of its absolute termination is always obscure. The difficulty of determining it is increased by the knowledge that endocarditis may continue to affect the heart—in other words, that the organism which produces it may continue to live within the heart, capable of fresh development, long after the temperature has become normal. What is commonly called an attack of rheumatic fever probably continues not less than three weeks after a normal temperature is reached. Certainly as this period is approached the temperature shows less tendency to those occasional rises which are common in the first month of the illness. The fact that a patient has not yet recovered from an attack may be indicated by slight rises of temperature, fresh pains or swelling of joints, or even by chorea with or without rise of temperature. *Since there is* generally no further opportunity of infection it is probable that the organism remains in the heart capable of reproducing under favourable circumstances the former phenomena. Thus the duration of the disease really depends on the presence of circumstances which are favourable to the development of an organism capable of long existence in the human body. "When a man is infected by bilharzia," said the very learned Professor Looss to me in course of a conversation on parasitology in Cairo this winter, "it may be some comfort to him to reflect that every entozoon dies after a sufficient lapse of time. What we have to do is to ascertain what its lifetime is" To learn its lifetime is equally part of the study of every micro-organism. The bacillus of enteric fever commonly ceases to be maleficent within three months of its introduction into the human body. Sir George Paget related to me the history of a patient of his who developed signs of tuberculosis of the lung at 30 years of age, was never quite free from signs of it, and died from well-marked pulmonary tuberculosis when over 90 years of age. The tubercle bacillus had lived in his body for full 60 years. The duration of life of the organism of rheumatic fever is certainly less than that of the tubercle bacillus Its active presence, as shown by its effects, lasts longer than that of the pneumococcus in lobar pneumonia. I shall venture to offer a hypothesis as to its approximate duration when I come to consider the prognosis.

The conclusion to which I wish to attain in this lecture is that every case of rheumatic fever, whether the pains in the joints are slight or severe, is a case of endocarditis, and that the condition of the endocardium is not to be regarded as a frequent complication but as the essential and invariable feature of the disease. I cannot help wishing that a name absolutely extricating this serious disease from the confusion involved in the term "rheumatism" could be found. Medical terms, inconstant as their meaning is from century to century, are difficult to destroy. It is no less difficult to bring them into use The "dothienenterite" of Bretonneau was appropriate enough but is almost as little used as the "pædosteosplanchnocace" of Daniel Whistler. Dr. Charles Badham's term "bronchitis," issued just a century ago, owes its firm place in the English language as well as in medical practice partly to the circumstance that no patient likes to think that his lungs are affected, since he knows that people often die from lung disease, but is willing to account for his cough by a name which does not convey a definite anatomical idea to his mind. Remembering this unwillingness of men and women to hear that they have diseases associated with the lungs or heart, I feel that "heart fever," which would be an appropriate term for a disease of which the most serious feature is endocarditis, would have little chance of coming into use instead of rheumatic fever. Were it not for this difficulty on the side of public opinion, which is what chiefly regulates the use or neglect of words, the term "heart fever" might with advantage be adopted for that morbid condition in which endocarditis, transient arthritis, and raised temperature are always present.

THE BLOOD IN RICKETS.

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EVER since von Jaksch[1] described his well-known cases of "anæmia infantum pseudo-leukæmica" the relationship of that disease to rickets has been much discussed. In nearly all the records of cases some mention is made of its association with rickets, and, in fact, not a few authors write as if "splenic anæmia of infancy" were merely a severe degree of the anæmia usually described as accompanying rickets. To this rule the Italians form striking exceptions, as they almost universally make no mention of rickets in their reports of cases. Von Jaksch taught that splenic anæmia was of the nature of a primary disease, and a quite distinct clinical entity, while Wentworth[2] and Hutchison,[3] on the other hand, think that it is of the nature of a secondary anæmia. The last-named author considers that it and rickets may be the result of a common, but as yet unknown, cause, while the Italians hold that it is consequent on septic infection, and designate it by the name "anæmia splenica infettiva."

Considering the frequency with which rickets occurs, comparatively seldom has the condition of the blood been the subject of study, and much of the diversity of opinion regarding the nature of splenic anæmia and its relationship to rickets is no doubt due to this lack of knowledge of the blood picture in rickets. Many authors have examined one or two cases, but I have only been able to discover two papers on the subject which are based on extensive observations.

Morse[4] in 1897 reported the result of an investigation into the condition of the blood in 20 cases of active and uncomplicated rickets occurring in children between the ages of seven months and two years. He found the percentage of hæmoglobin (as estimated by the apparatus of von Fleischl) to vary between 48 and 77, the red cells to vary between 3,508,000 and 5,528,000 per cubic millimetre, and the leucocytes between 5500 and 18,800 per cubic millimetre. He observed nucleated red blood corpuscles in three of the cases, all of which presented some enlargement of the spleen; and in one of these, in which the spleen was greatly enlarged, nucleated red cells, both megaloblasts and normoblasts, were very numerous. In nearly all mention is made of some variation in the size of the red cells, and occasionally poikilocytosis was observed. Morse concludes from his observations that most cases of rickets present some anæmia which as a rule varies with the severity of the disease, and that there may or may not be a leucocytosis.

Felsenthal (quoted by Morse) investigated 12 cases of rickets, the patients varying in age from nine months to two years. Three of the patients were very markedly rachitic and had large spleens. He got practically the same result in all the 12 cases. The red blood corpuscles were not decreased in number, or only to a very slight extent, but the hæmoglobin was always diminished. Nucleated red cells only occurred in the most severe cases.

Esser,[5] in a recent paper on the Etiology of Rickets, discusses the condition of the blood so far as the number and character of the leucocytes are concerned. He asserts that there is almost invariably, at least in the early stages, a marked leucocytosis, amounting in some instances to 30,000 per cubic millimetre, and that the nuclei of the polymorphonuclear leucocytes are more lobulated than normal. He does not, however, give any table of his results, nor does he make any mention of the percentage of hæmoglobin or number of red blood corpuscles.

Holt,[6] Cheadle,[7] and Ashby,[8] in their writings on rickets, speak of there always being a more or less severe anæmia, but not one makes any mention of a specific example. Text-books on hæmatology repeat this opinion. Ewing[9] and Cabot[10] both assert that in rickets there is a variable degree of anæmia, proportionate to the severity of the rachitic manifestations. Cabot says that anæmia is always present, and that examples of polychromatophilia, normoblasts and myelocytes, are not infrequently observed. Hutchison,[11] on the other hand, states that severe rickets is often accompanied by no appreciable degree of anæmia, and Pfaundler and Schlossmann[12] say that in rickets there is nothing characteristic in the blood.

Throughout the literature of splenic anæmia are records of isolated or perhaps two examples of rickets examined by one author, but in the majority of instances mention is made of some degree of splenic enlargement, and in not a few of these cases the blood picture was found similar to that met with in splenic anæmia. It should be remembered, however, that in splenic anæmia the size of the spleen bears no definite relationship to the severity of the anæmia, and also that it is very doubtful, in view of recent observations, if uncomplicated rickets is accompanied by any degree of splenic enlargement, and, as Starck[13] has shown, that splenic enlargement is as common in non-rachitic as in rachitic children.

It was to elucidate this question, the condition of the blood in active and uncomplicated rickets, that the present work was undertaken, and the subject was studied both from the experimental and clinical aspects. The experimental findings will be published later, and in the present paper I intend to confine myself chiefly to the discussion of the results as found in the cases of spontaneous rickets in children.

Spontaneous rickets.—I investigated the blood picture in 30 cases of active and uncomplicated rickets in children varying between the ages of 12 and 42 months, and to control these results blood examinations were carried out in 12 healthy children of corresponding ages and belonging to the same class of society. Some were absolutely healthy and others were the subjects of such conditions as hernia, cleft palate, and hypospadias, conditions which, it will be admitted, do not affect the blood picture. The rachitic cases for the most part were collected from patients attending the outdoor department of the Glasgow Hospital for Sick Children during the spring of 1907 and the spring of 1908. All the observations were made at the same time of the day—between 11 A.M. and 1 P.M. I contented myself with single observations, and, as some might raise objections to the reliability of such examinations, it may be stated that the present work was commenced after I had obtained several years of almost daily practice in this kind of work. When one has obtained a certain amount of experience in such work the personal error becomes reduced to a minimum, and the reliability of isolated examinations undoubted. Moreover, is it not as a rule on the result of a single observation that a diagnosis often rests?

At each examination the hæmoglobin was estimated by Gowers's hæmoglobinometer, and the red and white cells were enumerated with the Thoma-Leitz hæmocytometer, using dilutions of 1 in 100 and 1 in 10 respectively. Films were also made and stained with both Jenner's and Ehrlich's triacid fluids, and a differential count was made; the number of leucocytes counted varied between 400 and 800. Every case was examined *after treatment with Jenner's fluid* and many after the use of Ehrlich's triacid stain, especially when there was any dubiety as to the presence or absence of granules in the cells.

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[1] Wiener Klinische Wochenschrift, 1888.

[2] Boston Medical and Surgical Journal, vol. cxlv., p. 491.

[3] Goulstonian Lectures, Lecture II., THE LANCET, May 14th, 1904, p. 1323.

[4] Boston Medical and Surgical Journal, vol. cxxxvi., p. 369.

[5] Munchener Medicinis[illegible]7, p. 818.

[6] Diseases of Infancy an[illegible]07, p. 267.

[7] Allbutt's System of [illegible] p. 122.

[8] Gibson's Text-book of Medicine, 1901, p. 496.

[9] Clinical Pathology of the Blood, London, 1904, p. 378.

[10] The Clinical Examination of the Blood, London, 1897, pp. 279 and 280.

[11] Goulstonian Lectures, THE LANCET, May 14th, 1904.

[12] The Diseases of Children, London, 1908, vol. ii., pp. 205 and 206

[13] Quoted by Wentworth, Boston Medical and Surgical Journal, vol. cxlv., p. 491.

It may be advisable in this connexion to indicate the exact significance which I have attached to the terms by which the different types of leucocytes are designated. 1. In the classification of neutrophile, eosinophile, and basophile polymorphonuclear leucocytes and myelocytes I have used as criteria those laid down by Ehrlich and about which all authors will agree. 2. As hyaline cells I have named all

TABLE A.—*Cases between the Ages of 12 and 18 Months.*

No	Sex and age	Condition of rickets	Spleen	Blood examination. Absolute number of leucocytes per c.mm and percentage of leucocytes											
				Hb	Red cells	White cells.	Neutrophile polymorphs.	Neutrophile myelocytes.	Eosinoph.	Basoph.	Hyaline	Transitional.	Lymph.	Mononuclear with metachromatic granules	Nucleated red cells
							%	%	%	%	%	%	%	%	
1	F., 13 months	Marked Not walking	Not palpable	80	6,360,000	13,800	3795—27·5	138—1·0	138—1·0	138—1·0	1725—12·5	414—3·0	4,692—34·0	2760—20·0	—
2	F., 14 months	,,	,,	65	5,930,000	15,600	5304—34·0	—	156—1·0	—	—	46—0·3	2,745—17·6	7347—47·1	—
3	F., 15 months	,,	,,	90	5,300,000	7,200	2304—32·0	—	216—3·0	—	648— 9·0	576—8·0	792—11·0	2664—37·0	—
4	M., 15 months	,,	,,	85	4,460,000	16,600	4515—27·2	—	664—4·0	99—0·6	398— 2·4	99—0·6	9,229—55·6	1560— 9·4	—
5	M., 16 months	Early Bone changes slight. Not walking.	,,	95	5,740,000	15,400	3696—24·0	—	1278—8·3	92—0·6	92— 0·6	46—0·3	8,470—55·0	1740—11·3	—
Control Cases.															
I.	M., 17 months	No rickets (phimosis).	Not palpable	84	5,350,000	9,400	4549—48·4	—	56—0·6	37—0·4	150— 1·6	206—2·2	3,760—40·0	639— 6·8	—
II	F., 17 months	No rickets (umbilical hernia)	,,	64	5,000,000	24,200	7550—31·2	—	387—1·6	96—0·4	192— 0·8	338—1·4	14,568—60·2	1016— 4·2	1 in 500 leucocytes

TABLE B.—*Cases between the Ages of 18 and 24 Months.*

No	Sex and age.	Condition of rickets	Spleen	Blood examination. Absolute number of leucocytes per c mm and percentage of leucocytes											
				Hb	Red cells.	White cells	Neutrophile polymorphs	Neutrophile myelocytes	Eosinoph.	Basoph.	Hyaline.	Transitional.	Lymph.	Mononuclear with metachromatic granules	Nucleated red cells
							%		%	%	%	%	%	%	
6	M., 19 months	Marked Not walking	Palpable ½" below costal arch.	90	4,200,000	6,200	1643—26·5	—	372—6·0	—	93—1·5	93—1·5	2356—38·0	1705—27·5	—
7	M., 18 months	,,	Not palpable.	85	5,620,000	8,600	2494—29·0	—	309—3·6	—	86—1·0	—	4953—57·6	739— 8·6	—
8	F., 20 months	,,	,,	75	6,210,000	9,600	3456—36·0	—	—	48—0·5	336—3·5	192—2·0	4848—50·5	720— 7·5	—
9	M., 20 months	Marked Commencing to walk.	,,	100	6,130,000	8,200	3854—47·0	—	328—4·0	—	—	82—1·0	1066—13·0	2870—35·0	—
10	F., 20 months	Marked Not walking	Palpable on deep inspiration.	80	5,140,000	9,800	4508—46·0	—	98—1·0	—	147—1·5	343—3·5	3185—32·5	1517—15·5	—
11	M., 22 months	Marked Not walking. Diarrhœa	Not palpable	90	5,000,000	20,800	13041—62·7	—	249—1·2	104—0·5	249—1·2	1456—7·0	4513—21·7	1185— 5·7	1 in 400 leucocytes.
Control Cases.															
III	M., 19 months	No rickets (hypospadias)	Not palpable	75	6,200,000	8,900	2892—32·5	—	89—1·0	26—0·3	53—0·6	80—0·9	5268—59·2	490— 5·4	—
IV.	F., 23 months	No rickets	,,	84	6,130,000	13,200	4065—30·8	—	79—0·6	26—0·2	—	158—1·2	8632—65·4	237— 1·8	—

TABLE C.—*Cases between the Ages of 24 and 30 Months.*

No.	Sex and age.	Condition of rickets.	Spleen.	Blood examination. Absolute number of leucocytes per c.mm. and percentage of leucocytes.											
				Hb.	Red cells.	White cells.	Neutrophile polymorphs.	Neutrophile myelocytes.	Eosinoph.	Basoph.	Hyaline.	Transitional.	Lymph.	Mononuclear with metachromatic granules.	Nucleated red cells.
							%	%	%	%	%	%	%	%	
12	F., 24 months	Marked. Not walking. Walked a little when 20 months old.	Not palpable.	76	5,180,000	8,200	2337—28·5	—	164— 2·0	—	41—0·5	287—3·5	4633—56·5	738—9·0	2 in 400 leucocytes
13	F., 26 months	Marked. Not walking. Walked a little when 14 months old.	Palpable on deep inspiration.	65	4,750,000	16,400	8692—53·0	—	—	65—0·4	32—0·2	65—0·4	7150—43·6	393—2·4	—
14	F., 27 months	Marked. Not walking.	Not palpable.	94	5,300,000	14,000	8064—57·6	—	336— 2·4	56—0·4	—	—	4956—35·4	582—4·2	—
15	F., 27 months	Very marked. Not walking.	,,	100	4,240,000	19,000	7600—40·0	—	2318—12·2	152—0·8	76—0·4	304—1·6	7638—40·2	1368—7·2	—
16	M., 28 months	Marked. Not walking.	,,	100	6,360,000	19,600	7252—37·0	—	744— 3·8	117—0·6	—	156—0·8	10427—53·2	901—4·6	—
					Control Cases.										
V.	F., 25 months	No rickets.	Not palpable.	94	4,920,000	11,800	6018—51·0	—	295— 2·5	59—0·5	59—0·5	436—3·7	4189—35·5	731—6·2	—
VI.	M., 29 months	No rickets (inguinal hernia).	,,	90	6,060,000	12,600	5796—46·0	—	667— 5·3	75—0·6	—	37—0·3	5418—43·0	579—4·6	—
VII.	M., 25 months	No rickets (phimosis).	,,	98	5,840,000	11,500	4864—42·3	11—0·1	59— 0·5	46—0·4	59—0·5	—	6244—54·3	276—2·4	—

TABLE D.—*Cases between the Ages of 30 and 36 Months.*

No.	Sex and age.	Condition of rickets.	Spleen.	Blood examination. Absolute number of leucocytes per c.mm. and percentage of leucocytes.											
				Hb.	Red cells.	White cells.	Neutrophile polymorphs.	Neutrophile myelocytes.	Eosinoph.	Basoph.	Hyaline.	Transitional.	Lymph.	Mononuclear with metachromatic granules.	Nucleated red cells.
							%	%	%	%	%	%	%	%	
17	F., 30 months	Slight. Not walking.	Not palpable.	86	4,520,000	11,300	4746—42·0	—	768— 6·8	22—0·2	610— 5·4	271—2·4	4000—35·4	813— 7·2	—
18	M., 30 months	Very marked. Not walking.	,,	80	4,140,000	15,900	6757—42·5	—	2623—16·5	—	714— 4·5	397—2·5	3498—22·0	1908—12·0	—
19	F., 32 months	Slight. Not walking.	Palpable one finger's breadth below costal arch.	100	6,410,000	8,600	3096—36·0	—	318— 3·7	43—0·5	361— 4·2	748—8·7	2855—33·2	1161—13·5	—
20	M., 32 months	Marked. Not walking. Walked at 12 months.	Not palpable.	90	5,550,000	6,400	2779—52·8	—	128— 2·0	25—0·4	358— 5·6	614—9·6	1049—16·4	844—13·2	—
21	F., 33 months	Marked. Not walking.	,,	90	5,270,000	13,000	3536—27·2	—	364— 2·8	—	2184—16·8	988—7·6	620— 4·0	5408—41·6	—
					Control Cases.										
VIII.	M., 30 months	No rickets.	Not palpable.	80	5,810,000	7,000	2240—32·0	14—0·2	210— 3·0	42—0·6	936— 1·4	140—2·0	3864—55·2	392—5·6	—
IX.	F., 33 months	,,	,,	82	4,405,000	10,800	3045—28·2	—	626— 5·8	151—1·4	—	194—1·8	6004—55·6	777—7·2	—

large mononuclears with an oval or slightly indented nucleus and a relatively large amount of clear and faintly staining protoplasm, entirely devoid of granulations. 3. As transitional cells I have classified all those with a markedly bilobed nucleus and clear protoplasm devoid of granulations. The protoplasm of some of these cells did contain an occasional metachromatic granulation as stained with Jenner's fluid, but after staining with Ehrlich's triacid stain no granulation was detected. 4. Under the heading of "Lymphocytes" I have included all cells, irrespective of their size, which have a relatively large and centrally or slightly eccentrically placed nucleus, surrounded by a smaller amount of markedly basophile protoplasm often showing at the margins a certain degree of fraying. These cells varied much in size—from less than to twice that of a red blood corpuscle. The nucleus often showed several slight indentations, and in not a few one or two nucleoli were observed. These cells contained no granules. 5. I have classified apart under the term "Mononuclears with metachromatic granulations" a cell which it was often difficult to say was hyaline, lymphocytic, or myelocytic in nature. It was of very variable size, and it possessed a circular or slightly oval nucleus frequently showing several small indentations. The nucleus was relatively large, and it stained more deeply with basic dyes than did that of the typical lymphocyte. The protoplasm varied much in amount and density, and contained a variable but usually small amount of faintly staining metachromatic granulations. Sometimes at one part of its circumference the protoplasm was markedly basophile like a lymphocyte, and at another part quite hyaline in character. In films stained with Ehrlich's triacid fluid no trace of granulation could be detected. All gradations between this cell, the lymphocyte, and the hyaline were observed. This type of cell has been described by Naegeli, who considers it lymphocytic in nature. My reasons for classifying this cell apart were (1) the difficulty of deciding as to its exact nature and (2) that in rickets it was decidedly more numerous than in the case of normal children.

I have considered it advisable in the consideration of the cases of spontaneous rickets to tabulate the results in groups according to the age of the patient. The 30 cases have been divided into five groups, each of which comprises an age-period of six months. Under each group will be found a table giving detailed accounts of each of the rachitic and normal cases of corresponding ages, and a secondary table comparing the averages of the rachitic and of the normal cases with the reputed average (of authors) for that particular period of life.

Group A, Table A (comprising cases between the ages of 12 and 18 months).—In this series of cases it will be observed that in all except No. 5 the rachitic condition was marked. Not one of the children was walking, and in none was there any enlargement of the spleen noted. With the exception of cases Nos. 2 and 4 there was absolutely no evidence of anæmia. In case No. 2 the hæmoglobin was diminished only 5 per cent. and in case No. 4 the red blood corpuscles were some 500,000 per cubic millimetre below the normal average. In no case was a nucleated red blood corpuscle observed. In one case (No. 3) there was a leucopenia, while in the other four the number of leucocytes was slightly above the average, but there was nothing which could be called characteristic excepting the large numbers of the mononuclear cell with metachromatic granulations.

In one of the controls, No. II., a perfectly healthy and lively child, the hæmoglobin only amounted to 64 per cent. and the leucocytes numbered more than in any one of the rachitic children. The most striking features in the above table are the relatively higher blood counts and less variation in number of leucocytes than in the normal cases. These points will be better appreciated by comparing the average of the results in the rachitic cases with the average of the controls and also with the accepted average blood estimations as quoted by Hutchison and Carstanjen.[11]

—	Hb.	Red cells.	Leucocytes.	Absolute number per c.mm. of—		
				Neutrophil polymorphs.	Lymphocytes.	Mono nuclears with metachromatic granules
Rachitic cases.	83	5,558,000	13,720	4122	5185	3218
Controls ..	74	5,175,000	16,800	6049	9164	827
Reputed average.	70	5,000,000	12,500	5250	5375	—

Group B, Table B (comprising cases between the ages of 18 and 24 months).—In all of these cases the rachitic manifestations were marked, and with one exception they had not as yet learned to walk. The spleen in two of the cases was palpable, but in one only on deep inspiration, so that there was in all probability no marked enlargement of the organ. The hæmoglobin in all the cases was above normal, and with the exception of Case No. 6, in which the red cells were 800,000 per cubic millimetre below the normal average, there was no oligocythæmia. In one case (No. 11) one nucleated red cell was observed while counting 400 leucocytes, and in this case there was also a distinct degree of leucocytosis, but this child had been suffering from diarrhœa for some days prior to the examination. The other cases presented a varying degree of leucopenia. Here again the mononuclears with metachromatic granules were fairly abundant. The absence of anæmia, on the contrary the richness of the blood, will be better exemplified by comparing the averages as before:—

—	Hb.	Red cells	Leucocytes.	Absolute number per c.mm. of—		
				Neutrophil polymorphs.	Lymphocytes.	Mononuclears with metachromatic granules.
Rachitic cases.	86·6	5,383,333	10,533	4832	3470	1456
Controls .	79 5	6,160,000	11,500	3478	7450	363
Reputed average.	70	5,000,000	11,000	4950	4950	—

Group C, Table C (comprising cases between the ages of 24 and 30 months).—In four of these cases the rachitic manifestations were marked and in one very marked. Not one of the children was walking, though two had walked at an earlier period of life, only, however, to go off their feet later. In one case the spleen was palpable on deep inspiration. Two of the cases presented a reduction of the hæmoglobin to the extent of 4 per cent. and 15 per cent., and in two the red cells were diminished to the extent of 250,000 and 760,000 per cubic millimetre below the normal. In one case two nucleated red blood corpuscles, both of normoblastic type, were observed while counting 400 leucocytes. Four of the cases presented a certain degree of leucocytosis due both to a polymorphonuclear and lymphocytic excess. Here, again, comparison of the averages shows that though the blood count of the rachitic cases is inferior to that of the controls it is decidedly above the accepted average. There is, however, a slight leucocytosis and the cell with metachromatic granulations is still unduly abundant.

—	Hb.	Red cells.	Leucocytes	Absolute number per c.mm of—		
				Neutrophil polymorphs	Lymphocytes	Mononuclears with metachromatic granules.
Rachitic cases.	87	5,166,000	15,440	6789	6562	797
Controls...	94	5,606,000	11,966	5559	5283	523
Reputed average.	80	5,000,000	10,500	5040	4414	—

Group D, Table D (comprising cases between the ages of 30 and 36 months).—In two of the cases the rachitic condition was slight; in two it was marked, and in one it was very marked, and with the exception of one of the n some brown discharge was found in the vagina. was normal, but the body of the uterus was found nctly enlarged, and the sound passed $3\frac{3}{8}$ inches. I r to have the cervix dilated, so that the endo- might be explored; this was accordingly done terwards in a nursing home. For the dilatation, e inserted, and the dilatation was completed under ia next day with Hegar's dilators. On passing the to the uterine cavity a polypus of the size of a large was found. It was of firm consistence, and its nent to the uterine wall was quite definite and circum- . I removed the polypus in the usual way and sent a n of it for examination to the Laboratories of Public n. The report on it was as follows: "This tissue has ructure of a very adenomatous polypus. Some of the s are cystic, the stroma is infiltrated with inflammatory acts, but the tissue is benign." The fact that the pus was non-malignant was the more important as the ent had a feeble, dilated heart, and Dr. F. W. Hewitt, who e the anæsthetic, considered she would not have stood a jor operation such as abdominal hysterectomy.

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[11] Goulstonian Lectures, Lecture I., THE LANCET, May 7th, 1904, p. 1253.

ASE 2.—This patient was a woman, aged 70 years, who d been married 45 years, and had had three children, the st 35 years previously, and four miscarriages all before the rst child. The menopause occurred at the age of 50 years. he came to see me in December, 1908, and said she had een losing blood almost constantly, but not in large amount, for at least 18 months. When she was not bleeding there was a "sticky" vaginal discharge. She had had some backache, but no severe pain. On examination the os uteri was a little patulous, but the cervix was otherwise normal. The uterus was not well felt bimanually, as the patient was exceedingly stout. The sound, however, passed $2\frac{3}{4}$ inches, causing slight bleeding. This patient was admitted shortly afterwards into the London Hospital under my care. The cervix was dilated in the same way as in the preceding case, and a polypus almost exactly similar in size and in microscopic structure was found and removed.

I may add that in July, 1907, I showed a specimen at the Obstetrical Society of a fibroid polypus removed from a patient, 72 years of age. In this case the polypus projected into the vagina through the dilated os uteri. It was the occurrence of bleeding which led to an examination and the discovery of the polypus. Microscopical examination showed that the polypus was not malignant. These three cases are, I think, instructive in showing that even at such advanced ages as 70, 72, and 73, the tissues of the uterus may in very rare instances depart from the state of quiescence which then so generally characterises them, and take on an activity leading to the production of benign tumours similar to those so frequently found in adult life before the occurrence of the menopause. Such cases are, however, in my experience very rare; and it should be remembered that, as bleeding after the menopause is so very generally due to the presence of a malignant growth, the benign character of any growth which may be removed in such circumstances should only be accepted as proved after careful microscopical examination.

Another cause of bleeding after the menopause, not due to malignant disease, of some interest is the growth of an ovarian tumour. It is only, however, in rare cases that metrorrhagia is found associated with the growth of an ovarian tumour after the menopause while on the other hand ovarian tumours are common in elderly women. It is not clear why in the majority of such cases there is no metrorrhagia if a causal relation exists between the two conditions. In a certain number, however, it appears that such a relation does exist, since after the removal of the ovarian tumour the metrorrhagia ceases, and does not recur. I recorded some cases of this kind in THE LANCET of Jan 2nd, 1897, p. 23, and also in THE LANCET of June 16th, 1906, p. 1674.

Upper Brook-street, W.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION.—The spring meeting of the South-Eastern division of the Medico-Psychological Association will be held by the courtesy of Dr. E S Pasmore at the Croydon Mental Hospital, Upper Warlingham, on Tuesday, April 27th. Dr. Pasmore kindly invites the members to luncheon to 1 30 P.M. Dr. Thomas Claye Shaw will read a paper upon the Clinical Value of nsness in Insanity.

AN ENORMOUS FÆCAL TUMOUR IN A GIRL WITH CONGENITAL ABNORMALITIES OF HER PELVIC VISCERA.

BY H. B. BUTLER, F.R.C.S. EDIN.,
ASSISTANT MEDICAL OFFICER TO THE ROYAL SURREY COUNTY HOSPITAL, GUILDFORD;
ARTHUR F. HERTZ, M.A., M.D. OXON., M.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO GUY'S HOSPITAL;
AND
W. ARBUTHNOT LANE, M.S. LOND., F.R.C.S. ENG.,
SURGEON TO GUY'S HOSPITAL.

A GIRL, now aged 16 years, was in St. Thomas's Hospital as an infant because of a congenital abnormality of her rectum. Nothing was done at the time, but her mother was advised to bring her to the hospital when she was a few years old for operative treatment. As the child's general health remained very good this was not done. Her first stool was passed three days after birth, and she became gradually more and more constipated, until, at the age of eight, a month or six weeks frequently elapsed before she opened her bowels. Sometimes after an unusually long period of constipation, fluid fæces would run away from her constantly for about a week. She had also occasional attacks of pain, but her appetite was always good, her tongue clean, and her colour good. She was well developed and was accustomed to take plenty of exercise in the open air. Medical advice was never sought for her until Dec. 15th, 1907, when she was admitted into the Royal Surrey County Hospital, Guildford, under the care of Mr. H. B. Butler. Her temperature was 102° F. and her pulse was 120. Her tongue was furred and she looked ill. She complained of severe abdominal pain. The abdomen moved well on respiration, but it was very tender, especially over the right side. A hard, non-fluctuating tumour, dull on percussion, was found coming up from the pelvis; it resembled in size and position a uterus at the sixth month of pregnancy. On examination under an anæsthetic it was discovered that the patient had no anal canal, her rectum and vagina ending in a common cloaca. The rectum was found to be full of fæces and it appeared probable that the whole tumour was fæcal. A quantity sufficient to fill three large kidney dishes was removed by a blunt spoon; the fæces contained several plum-stones. The tumour did not completely disappear, so aperients and enemata were given during the next three days, with the result that considerable quantities of fæces were evacuated. The temperature steadily fell and was norma on Dec. 18th. The tenderness had completely disappeare but a tumour of the size of a cricket-ball was still present the right iliac fossa. The temperature rose on the eveni of the 18th and fluctuated between 99° and 101° until 26th, when the patient was again anæsthetised and incision was made over the mass. Coils of intestine found adherent to each other and to the parietal periton A second more lateral incision was made, but the pat condition did not warrant the long dissection which have been necessary to penetrate between the inte loops in order to reach the tumour, so the first incisi closed and the second was packed with gauze. The and pain now disappeared, and on Feb. 2nd the pati the hospital apparently well, the wounds having hea the tumour having disappeared.

On May 16th Mr. Butler was again called to patient, whose temperature was 102°. A painful was found in the right iliac fossa. She was readm the Royal Surrey County Hospital and an incision over the mass, which was found to be an intra abscess. This was evacuated and the wound soon the temperature fell to normal. On August 8th the tumour had reappeared, the bowels not having b since May 16th. She was sent to Guy's Hospital was admitted under the care of Dr. A. F. Hertz the picture of health, was well nourished, with a healthy skin, moist clean tongue, and good appetite was excellent. The lower part of the completely filled with a very hard tumour, well- and laterally, rising out of the pelvis to a dist

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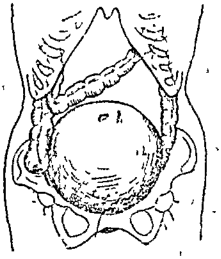
inches above the pubes, its transverse diameter being eight inches. It was not fixed to the abdominal wall and could be displaced by manipulation as much as the crowded condition of the pelvis allowed. It was dull on percussion and could be pitted by prolonged pressure with the finger, the depression remaining for, some time. The urine contained no albumin, pus or casts, and the circulatory, respiratory and nervous systems were quite normal. By means of a bismuth meal it was found that the cæcum, ascending colon, transverse colon and descending colon were normal in size and position, except that the transverse colon was pushed upwards by the tumour. The rate with which the bismuth traversed the colon was also normal. The shadow ended about one and a half inches below the left iliac crest, where the iliac colon apparently joined the enormously distended pelvic colon and rectum, which together formed the sac filled with fæces. The accompanying illustration shows somewhat diagrammatically the relation of the sac containing the fæces with the rest of the colon, as ascertained by the skiagraphic examination



On August 12th the patient was anæsthetised and placed in the lithotomy position. By means of two fingers inserted into the rectum and pressure exerted from outside on the tumour the fæcal mass was slowly dug away; subsequently a tube was introduced into the rectum and the irrigation, combined with the use of the finger, enabled the whole accumulation to be removed. The colon was then irrigated until, two hours after the manipulations had begun, the water came away perfectly clear. By weighing the patient before and after the operation it was found that five pounds of fæces had been removed. The fæcal tumour having now been removed, it was possible to investigate more accurately the nature of the congenital abnormality. There was no trace of an anus, anal canal, or sphincter, the rectum opening into the posterior part of a cloaca. The opening had at first admitted one finger only, but it had been stretched until two fingers could be introduced into the rectum. The latter was separated by a transverse fibrous septum from two vaginæ, which were separated from each other by a median septum, which joined the transverse septum posteriorly. A cervix was found in both vaginæ, but only one uterus could be felt; the greater part of the latter was on the right of the middle line. Probably the septum between the vaginæ was continued into the uterus, the condition being that of "uterus bilocularis." The patient was ordered abdominal massage and faradism and was put on a full diet and allowed to get up. She was given strychnine and cascara sagrada. Whenever her bowels were not opened for 48 hours she was given an enema of cold water. The patient unfortunately insisted on leaving the hospital within a week of the removal of the fæcal accumulation, so that there was no time to ascertain whether the treatment would be effective. Although her mother was instructed to give her enemata regularly she failed to do so. It was, therefore, not surprising that the fæces began to re-accumulate in the rectal sac. When seen on Oct. 24th a large fæcal tumour was again present in the abdomen, somewhat smaller than on the last occasion, and situated more in the left than in the right half of the lower part of the abdomen. In spite of the retention of fæces the patient looked and felt exceedingly well, and was able to walk 12 miles without fatigue. She was, however, much troubled by the continuous escape of small quantities of fluid fæces, apart from which she was unable to produce any evacuation.

The patient was readmitted into Guy's Hospital under the care of Mr. Arbuthnot Lane on Oct. 30th. On Nov. 2nd the fæcal accumulation was again removed under an anæsthetic by the finger with the aid of continuous irrigation, the process lasting two hours. The next day Mr. Lane operated by an incision through the left rectus. The largely dilated and hypertrophied gut was exposed and divided about four inches from its lower extremity, the distal portion being closed and dropped into the pelvis. The proximal portion was pulled out of the wound till the residual bowel was taut. It was then sewn in position, means being taken to constrict the orifice sufficiently. At the operation the lower end of the large intestine was found to have contracted to a considerable extent. It was completely free from all adhesions and the mucous membrane of the excised portion was subsequently found to be quite normal. Adhesions were seen in the right iliac fossa; it appears probable that the abscess previously opened in this situation was appendicular in origin and quite independent of the fæcal tumour. The abdominal examination showed that only a single, apparently normal, uterus was present. The patient made an uninterrupted recovery and was discharged on Nov. 27th. At the end of March, 1909, she was perfectly well and very pleased with the result of the operation.

Apart from the remarkable size of the fæcal tumour and the interesting developmental abnormalities, the case is noteworthy as showing how in some cases prolonged retention of large quantities of fæces may occur without producing any anatomical or functional changes. Thus there were no adhesions round the distended intestine; the musculature had not suffered greatly in spite of the long period during which it had been greatly stretched, as the gut was found at the operation to be contracted down almost to the normal size; and the mucous membrane was found to be perfectly healthy on both naked-eye and microscopical examination. Lastly, the patient at no period showed the smallest signs of autointoxication, her complexion being excellent, her nutrition good, and her mental and bodily activity quite normal.

DELAYED DELIVERY IN A CASE OF CENTRAL PLACENTA PRÆVIA,

WITH REMARKS ON THE TREATMENT OF THE LATTER.

BY N. I. SPRIGGS, M.D., B.S. LOND., F.R.C.S. ENG.,
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ON April 17th, 1907, I was called to a woman who was in labour and had been flooding freely. She was a multipara, aged 40 years, and had had 13 full-time confinements and one abortion at three months. In her first labour instruments were used and the perineum was badly ruptured. She said she had "carried all her children high" and the labours were "long and dry." When seen the patient had evidently bled very freely, though the exact quantity of blood lost could not be ascertained. She was blanched and the radial pulse could only just be distinguished. She considered that she was eight months pregnant. On examination the placenta was felt presenting through an os about the size of a five-shilling piece. It could not be determined in which direction the nearest edge of the placenta lay. There were no pains. A saline rectal injection was given, the patient directed to drink freely, and one drachm of liquid extract of ergot administered, as there seemed to be no possibility of any obstruction, and the labour was rather premature. A few hours later the pulse was considerably better, in spite of the fact that the patient had been vomiting. The whole hand was then inserted into the vagina (which was more easily performed than usual on account of the old rupture of the perineum) and the full length of two fingers inserted through the os, but still, on sweeping round the entire circumference of the latter, no indication of the edge of the placenta could be found.

Three courses were now open: (1) to put the whole hand through the os uteri, and so reach the edge of the placenta for the purpose of turning; (2) to try to deliver the placenta first (after Sir James Simpson); this would also need a hand through the os uteri; and (3) to perforate the placenta. The latter procedure was adopted as being the most suitable, as the patient was not under an anæsthetic, neither was she in a very good condition to take one; also the os was not as yet fully dilated. A hole was scratched through the placenta with the finger and the head found presenting. The bleeding was very slight. Bimanual version was then performed. This was very difficult and took some time, as the hole in the placenta was only made big enough to admit two fingers, and the fœtal parts could only be distinguished with great difficulty by the extreme tips of these fingers. As soon as a foot could be felt an attempt was made to rupture the membranes on the fœtal aspect of the placenta, but without success, as they were very tough. The rupture was accomplished, however, with the help of a pair of rather sharp-pointed uterine forceps. The hole in the membranes and placenta was stretched bigger by opening the blades of these forceps. This allowed some liquor to escape and the leg was then brought down. After placing a tape round the foot the patient was left, as there were still no signs of any pains. Eight hours later it was found that the leg had only very slightly advanced. A few slight pains had been present, but had passed off again. The patient's pulse was 120 and very weak and she had been continually losing a little blood. An examination showed that the hole made in the placenta, which was bounded by what felt like moderate-sized vessels or strands of placental tissue, was too small to let the half-breech freely descend, as the latter was tightly embraced all round. The hole was accordingly freely torn larger with the fingers and gentle traction applied to the leg. The child was then delivered in about 15 minutes and was found to be dead. After waiting half an hour the placenta did not come away, though one edge could be felt in the vagina. The uterus was then explored and found to be irregularly contracted, retaining one portion of the placenta which was also slightly adherent. After the placenta had been completely removed and a uterine douche given the womb contracted well.

On examination of the placenta after delivery it was found to be situated approximately in a central position, as the presenting part nearly corresponded to the place of insertion of the cord, which was in the middle of its fœtal surface. The rent made through the placenta had, however, extended to the edge during the process of delivery. The placenta was not observed to be exceptionally large in extent, though this would be expected from the fact that one edge was found to be adherent to the uterine wall near the fundus, whilst the opposite edge was free in the vagina. This point should have been more exactly observed, and I can only plead in extenuation that early morning hours in a comfortless and none too clean tenement are not conducive to exact pathological observation.

The after-history of the case was as follows. There was slight pyrexia for two days, which then subsided. Later the patient had some thrombosis in the right femoral vein which delayed complete recovery. At the time of writing (three months after delivery) she is getting about and doing her work as usual.

The chief points of interest in this case may be briefly summarised as follows:—

1. *The very central position of the placenta.*—I have not come across any records of series of cases indicating the rarity of this central position, with the exception of a small series of 34 cases of placenta prævia recorded by Sinnetamby,[1] and of these only one was central. If one may judge by the scanty attention given by most text-books to the subject of the treatment of placenta prævia when thus centrally situated, this position is of considerable rarity.

2. *The delay in delivery*, apparently due chiefly to the fact that the hole in the placenta and membranes was not, in the first instance, made sufficiently large to allow the half-breech to descend freely. This is a cause of delay to which attention has not yet been called, as far as I am aware. The half-breech generally forms an admirable dilator and stimulator of the cervix, but in this case it was held up by the placenta, so that only the thinner part of the thigh was through the os, and this part was not of sufficient girth to stretch and stimulate it. The placenta was of normal thickness and therefore was not easily torn or moulded round the half-breech as a thinner one might have been by such very feeble pains as the patient was having.

3. *The inertia of the uterus.*—This is common in such cases and is due to the weak and anæmic state of the patient, the want of the normal stimulation of the cervix, and possibly to some disturbance of the uterine "polarity" due to the abnormal placental implantation and to the frequent prematurity of the labour.

4. *The retention of the placenta.*—This may very easily be explained in this case by the irregular and feeble contraction of the uterus. This retention is more common in cases of placenta prævia than in normal labours, as is emphasised by De Lee.[2] In two cases of central placenta prævia recorded by Peters[3] the placenta had to be removed manually in both. In the present case a dose of ergot was given when the patient was first seen, and it is doubtful whether the irregular or hour-glass contraction observed 12 hours later was *post hoc* or *propter hoc*. It may have been due to the disturbed polarity alluded to above.

5. *The value of saline injections* was well illustrated in this case. This is also emphasised by Sinnetamby[4] in the paper to which reference has already been made; at the same time he advocates very slow delivery in cases of placenta prævia.

6. *The very slight amount of hæmorrhage* which accompanied perforation of the placenta in this case.

7. Lastly, *the treatment adopted*—viz., perforation of the placenta as far as the membranes, bipolar version, perforation of the membranes, and slow breech delivery.

On referring to the text-book instructions, Galabin[5] says: "In the case of a very central placental insertion it may be necessary before performing the actual version to rupture the membranes along the edge of the placenta, to draw that edge downwards towards the centre of the os, and then to proceed with the version as rapidly as possible"—i.e., Galabin apparently considers that perforation is never necessary. Jellett, in his excellent "Manual of Midwifery," does not mention the fact that the presence of the placenta causes any difficulty in performing bimanual version. Braun von Fernwald,[6] in a paper on the Treatment of Placenta Prævia, advises separation of the placenta from the lower uterine segment till the membranes are reached—practically the same as Galabin. He also mentions the slight risk of air embolism attending this procedure. Palmer[7] mentions two cases of central placenta prævia in which forceps were used, but in the majority of such cases the presence of the placenta would interfere very much with their application, and it is extremely unlikely in such cases for serious hæmorrhage to be delayed till the os uteri is enough dilated for forceps.

Sir James Simpson recommended complete separation of the placenta and its delivery before the fœtus in certain cases, and it would seem that centrally situated placentæ are the most suitable for this form of treatment, as they have to be so very largely detached before the fœtus can be delivered. Also it appears that spontaneous delivery of the placenta first, which sometimes occurs, and which gave rise to this form of treatment, occurs more often when the placental site is very low, and this is only to be expected when one considers that the tendency would then be for the presenting part to push the placenta before it. R. Barnes[8] recommended digital separation of the placenta around the whole circumference of the os uteri, and in the case of a centrally situated placenta this treatment approaches to that of Sir James Simpson alluded to above. It must be noted, however, in these cases that the placenta is often very large in extent, and so reaches a good way from the os uteri in all directions, so that it is unlikely that complete separation could be accomplished with the fingers only through the os. Peters, in the record of his two cases of central placenta prævia, mentions that perforation often causes serious hæmorrhage. R. Barnes[9] says on this subject "we can imagine a case in which perforation might be *excused*." Finally, we may gather from the above views that the general opinion is that perforation of the placenta is rarely, if ever, needed. In spite of this, it is difficult to see what better could have been done, in the exigencies of general practice, for a case such as that upon which these remarks are based.

Shrewsbury.

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[1] Journal of Obstetrics and Gynæcology, 1904.

[2] American Gynecological Journal, 1902.

[3] Centralblatt für Gynäkologie, No. 16, 1902.

[4] Loc. cit.

[5] Text-book of Midwifery, p. 433.

[6] Wiener Klinische Rundschau, 1903.

[7] American Journal of Obstetrics, 1903.

[8] Obstetrical Operations.

[9] Loc. cit.

ON THE TERMINATION OF THE THORACIC DUCT.

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THE wounding of the thoracic duct during operations at the root of the neck is an accident which, until quite recent years, was regarded as a very grave injury, usually followed by death. In the 1895 edition of Erichsen's "Surgery" it is stated that "the injury has been almost universally fatal." That this is not necessarily so has since been abundantly proved by the published cases, of which W. J. Stuart[1] has collected and tabulated 40. Of this series only five died, and even some of these five deaths appear to have been in no way due to the wounding of the thoracic duct. Stuart estimates the true mortality as probably not greater than 8 per cent., and it is interesting to note that amongst the cases in which the accident was recognised at the time of operation and the duct ligatured there was not a single fatality. In Keen's "Surgery" (1908) E. W. Andrews remarks that "if ligated, distension and rupture will follow unless collateral branches divert the flow;" and again, "ligation involves some theoretical risk, since with a single duct the patient must die unless it can discharge."

Such considerations led us to seek in the anatomy of the terminal portion of the duct some explanation as to why the older surgeons regarded a wound of the duct as such a serious accident, and why the ligation of the duct should appear to be in reality so free from danger. On referring to the literature we find that Poirier and Cunéo[2] state that the termination of the duct by two distinct branches is fairly frequent. Watson[3] says that sometimes the terminal part of the bend of the duct bifurcates and opens by two separate trunks into the subclavian vein. We have only been able to find two definite series of observations, one by Verneuil[4] and the other by Wendel.[5] The former found that out of 24 cases the duct was single in 18, double in 3, triple in 2, and six-fold in 1. The latter found that out of 17 cases, it was single in 9, double in 3, three-fold in 1, and multiple in 4.

We now submit a further series of anatomical observations, based upon 40 records, 36 of which are from subjects within 24 hours of death, 1 from a living case in which the termination of the duct was exposed but not cut in the course of an operation, and 3 from careful dissections of formalin-hardened specimens. Our plan was to isolate the duct in the posterior mediastinum and inject it with coloured gelatin, after which it was followed up to its termination. We found that in 18 out of the 40 cases the duct divided and that this division usually occurred while it was lying behind the left common carotid artery about 5 centimetres from its opening. In one case, however, the division only took place 8 millimetres from the termination, while in another the duct was double for 2 centimetres.

As a rule the duct divided into two branches of about equal size, though when they were unequal the upper—i.e., the one most liable to injury—was usually the larger. This we noticed six times and we met with no cases in which the lower branch was markedly larger than the upper. In three out of the 18 cases of bifurcating ducts one of the two branches divided again and the three ducts thus formed communicated with one another by anastomosing channels, so that a wide-meshed plexiform arrangement was present. In two others the division was still more free and there were four openings into the great veins.

It does not follow that because the duct divides before its termination it necessarily has more than one opening into the veins. In only nine of the 18 double or multiple ducts was this the case; in the other nine the branches united, sometimes in the wall of the vein, but more often before reaching it, and so only one aperture was present. When there was only one opening, whether the duct had been single or double before (we opened the veins in an extra specimen to make up for the one seen during life which, of course, could not be opened), that opening was usually into the lower part of the internal jugular vein below and often under cover of the left flap of the valve which is there. This was the case in 26 of the 40 specimens, and the material at our disposal leaves us little room to doubt that it is normal. In three cases the opening was anywhere between the point of junction of the two veins and one centimetre above, but in addition to these 26 there were two other specimens in which the openings were respectively 19 millimetres and 25 millimetres above the junction.

Only three times were we able to satisfy ourselves that the opening was really into the junction of the internal jugular and subclavian vein. Of the nine cases in which the duct had two or more openings four had two openings close together and one had four openings close together in the normal place—i.e., into the lower part of the internal jugular within one centimetre of its junction with the subclavian. One had one opening in the normal place and another higher up in the internal jugular above the valve. Two had one opening in the normal place and another into the subclavian. One had one opening in the normal place and three others close together in the subclavian.

It is interesting to notice that in only three out of our 40 cases did the duct open partly into the internal jugular and partly into the subclavian, because Lower[6] regarded this mode of termination as the normal. It is also worth while drawing attention to the fact that in only two of the 40 cases were more than two openings present, so that the case which Verneuil records in which there were six openings is probably a very rare one.

For convenience of reference we may tabulate the different methods of opening in the following way:—

A.	Single ducts opening into the lower centimetre of the internal jugular vein	19
B.	Single ducts opening into the junction of the internal jugular and subclavian veins	3
C.	Double ducts joining and opening into the lower centimetre of the internal jugular	7
D.	Double ducts joining and opening more than one centimetre above the junction of the internal jugular and subclavian	2
E.	Double ducts with two openings into the lower centimetre of the internal jugular vein.	4
F.	Double ducts with two openings, one into the lower centimetre of the internal jugular, the other into the same vein higher up	1
G.	Double ducts with two openings, one into the lower centimetre of the internal jugular, the other into the subclavian vein	2
H.	Multiple ducts with four openings all into the lower centimetre of the internal jugular vein	1
J.	Multiple ducts with four openings, one into the lower centimetre of the internal jugular, the other three into the subclavian	1
	Total	40

By adding together cases A, C, E, F, G, H, and J, it will be seen that in 35 cases out of the 40 cases the duct opened wholly or partly into the lower centimetre of the internal jugular. From the foregoing it will be noted that in nearly half our cases (18 out of 40) the duct was double and that if a surgeon accidentally divided one of these in the root of the neck it is unlikely that, provided the wound was occluded by ligature, any inconvenience would result. It is, of course, unwise to found a definite percentage on 40 cases, but our experience with statistics of other parts of the body makes us believe that the range of error is not likely to be very great, while the difficulties and tediousness of procuring suitable material, injecting and dissecting the specimens must serve as our apology for not presenting a larger series.

It does not follow that even if the duct does not divide in the neck its section must necessarily give rise to serious symptoms because it has been pointed out that occasionally there is a communication in the thorax between the thoracic duct and the right lymphatic duct, and if this were present the chyle might be diverted to the veins of the right side. We did not find this communication injected in any of our specimens, but our dissection seldom went lower than the fifth thoracic vertebra. Moreover, the main duct has sometimes been found to open into one of the azygos veins.[7] No doubt the division of the thoracic duct in the neck is a remnant of its plexiform character in lower mammals. In the ox, for example, a plexiform termination is normal, according to Chauveau, while in the horse, pig, dog, and cat a division and reunion so as to form a ring is very common. The union between the thoracic and right lymphatic ducts is a repetition of the avian arrangement where the duct opens into the precaval veins of both sides.

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[1] Edinburgh Medical Journal, 1907.

[2] Leaf's Translation, 1903.

[3] Journal of Anatomy, vol. vi., p. 427.

[4] Le Système Veineux, 1855.

[5] Deutsche Zeitschrift für Chirurgie, Leipsic, 1893.

[6] Quoted by Poirier and Cunéo, loc. cit.

In four out of our 18 cases of double ducts we noticed that the vertebral vein passed between them, which is not surprising when it is remembered that the duct sometimes passes in front of, and sometimes behind, the root of this vein. In one case the branches passed one in front of and one behind the first part of the subclavian artery; this was a specially plexiform termination and had four openings into the veins. As a rule, however, nothing passed between the two or more terminal branches when they were present.

The subclavian, jugular, and broncho-mediastinal ducts were seen on several occasions, though the injection never passed into them. The subclavian duct was most often seen and was always remarkable for being closely connected with a lymphatic gland of moderate size (from 1 to 2 centimetres) which lay near the outer border of the scalenus anticus. Out of 12 cases in which it was dissected out, this duct joined the thoracic duct in ten, while in the other two it opened separately just below the opening of that duct. The left jugular duct was seen ten times and in nine of these it opened into the thoracic duct. This observation is of little value, because in those other cases where the duct was not seen it probably opened somewhere else. In one of these cases there were two jugular ducts, one joining the thoracic duct and the other opening into the internal jugular vein a few millimetres higher up. The usual place for the jugular duct to join the thoracic duct was 1 to 2 centimetres from the termination of the latter. The broncho-mediastinal duct was only seen four times, and probably often opens separately into the great veins. In all these four cases it opened into the thoracic duct some distance from its termination.

During our investigations of the termination of the duct into the great veins it was necessary to open the latter, and in doing so we gained some definite knowledge of the jugular vein. In 32 out of the 40 cases the valve consisted of two pocket-shaped semilunar flaps which were almost always right and left, though the right one often had a tendency to be somewhat anterior and the left posterior. As a rule these two flaps were not set on quite horizontally, but their anterior ends were higher than their posterior. In most cases the valve was about one centimetre above the termination of the internal jugular, though in a few cases it was a good deal higher. Of the eight exceptional cases one showed complete absence of the valve and in another it was very rudimentary. In three specimens only one cusp was present, but that was in every case the left. In three specimens there were three cusps, and in all of these the extra cusp was very small and was situated on the posterior surface of the vein between the hinder attachments of the other two.

The actual opening of the thoracic duct was almost always obliquely through the wall of the vein and having a direction downward, forward, and to the right. Usually there was a dilatation in the venous wall forming a pouch resembling the ampulla of Vater in the duodenum, and the mouth of this, when the duct was empty, played the part of a valve or pair of valves. In a few cases the orifice was guarded by a permanent fold of endothelium, but more often the valves disappeared on stretching the wall of the vein and, though physiologically functional, could not be described as definite morphological structures. In three of the 40 cases the vertebral vein opened into the above-mentioned pouch, but in most of them it opened a little lower down into the back of the junction of the internal jugular with the subclavian vein. More rarely the opening was distinctly into the innominate vein, though seldom more than a few millimetres to the right of a line continuing down the inner margin of the internal jugular vein.

The point of opening of the left superior intercostal vein was seen in almost every case and was always into the innominate below and to the right of the orifice of the vertebral. Its exact point of opening, however, varied greatly.

Summing up the contents of this communication, we noticed: 1. That the thoracic duct divided in the root of the neck in 18 out of 40 cases (nearly 50 per cent.) 2. In 9 of these it joined again, in 7 it opened by two orifices, and in 2 by four orifices. 3. In 35 of the 40 cases (87·5 per cent.) the duct opened wholly or partly into the lower centimetre of the internal jugular vein. 4. That it usually opened into a pouch and that the opening of this acted as a valve, though a definite morphological valve was only occasionally seen. 5. That the duct passed sometimes in front, sometimes behind, and sometimes on both sides of the vertebral vein. 6. That the internal jugular valve was a very constant bicuspid structure rarely absent, but occasionally tricuspid or unicuspid. Comparing our results with those of the two smaller series referred to, we find that our proportion of multiple ducts is much greater than that of Verneuil, ours being 18 out of 40 and his being only 6 out of 24; whilst our figures agree closely with those of Wendel, 8 multiple out of 17, who also used injected ducts for his dissections.

We conclude that, as there appear to be multiple ducts in nearly half of all cases, some at least of the reported cases of injury must have involved damage to a division and not to the whole duct, the ligature of which would cause no serious hindrance to the chylous flow into the veins. In the few cases which have recovered spontaneously after chylorrhœa of many days, or even weeks, it is probable that a second channel already existed, either of the common kind which we have described or of some rarer sort, such as a large communication with an azygos or some other vein.

EPSOM SALTS AS A POISON:

WITH A RECORD OF A CASE OF UNUSUAL SYMPTOMS D TO THIS DRUG.

BY CHARLES FRASER, M.A., M.D. EDIN., D.P.H. CAM

As a therapeutic agent Epsom salts are *commonly* co sidered to be particularly free from danger. There are, ho ever, records of six cases in which the administration *of th* drug was followed by untoward symptoms of a very grav character, five of these rapidly terminating fatally. Ther appears to be considerable room for debate as to the mann in which the salt exerts its morbid effects. In registerin another case of "poisoning" by this drug I have for purpos of comparison and contrast appended summarised reports o these six cases, and at the same time I have ventured to offe suggestions as to the probable modes of action of the drug.

At 2.30 P.M. on August 19th, 1908, I was summoned t see a boy, aged three and a half years. The patient's mothe stated that 25 hours previously, during her temporary absenc from the room, the patient had taken a heaped-up tea-spoonful of Epsom salts from a packet which he had found lyin on the table, imagining it to be sugar. Finding his mistake but wishing to remove traces of his guilt, the little fellow washed the salts down with a mouthful of milk. On returning to the room a few minutes later she found him retching and apparently suffering considerable pain in the stomach Nausea and retching continued throughout the day. About 7 P.M. the abdominal pain, which was of a griping, spasmodic character, was very severe, and actual vomiting became a prominent symptom. Thirst was also very distressing. There had been no action of the bowels. At this stage a pharmaceutical chemist was consulted who prescribed castor oil; this was at once rejected. Throughout the night the patient continued to suffer severe pain and vomited at frequent intervals. No further assistance or advice was sought until 2.30 P.M., although in the meantime the child had rapidly become worse.

The boy was now obviously critically ill. He lay in bed on his back, his face pinched, eyes sunken, and skin pale. His mind was perfectly clear. About every two minutes he had colicky attacks which made him draw up his legs. The temperature was 100·5° F.; pulse 160 and small; tongue was very dry, the papillæ standing out prominently. Thirst was intense; the bowels had not acted. About half an ounce of urine had been passed during the 24 hours. The abdomen was very distended and rigid; the skin was markedly hyperæsthetic, so much so that palpation was performed with difficulty. This hyperæsthesia was least over the epigastric region, where the percussion note was tympanitic; in both iliac regions and in the hypogastrium it was dull. A catheter was passed and about half an ounce of dark muddy urine was drawn off which contained no albumin and was very acid. At 9.30 P.M. the patient seemed weaker; he was still very sick, vomiting every few minutes small quantities of greenish-yellow stuff which had no characteristic odour. The bowels had not acted; temperature was still 100·5° and the pulse 160. The distension was more pronounced; the percussion note was more generally tympanitic, the dulness being limited to the left iliac region. At 2.30 A.M. on the next day vomiting was as incessant as before; neither bowels nor kidneys had acted; the pulse was uncountable and the temperature 100·5°. There seemed, however, to be rather less tenderness on palpating the abdomen and the dulness was still limited to the left iliac region; the liver dulness seemed normal. The symptoms and appearances being suggestive of acute peritonitis, laparotomy was deemed advisable and the patient was at once removed to the Sussex County Hospital.

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[7] Wendel, loc. cit.

For the following notes I am indebted to the kindness of Mr. A. H. Buck, under whose care the patient was admitted.

"On admission the child was collapsed; temperature sub-normal; pupils dilated; pulse 160; abdomen rigid and retracted with very slight movement. Laparotomy performed about 3 30 A.M. Central incision made; on opening abdomen intestines floated up into the epigastrium; about two pints of blood-stained serum let out; no lymph; no smell. (This blood-stained serum was submitted to the pathologist, who reported that it was sterile.) Large intestine drawn out and lumps of fæces and gas present; appendix healthy; through small intestine green matter seen as in vomit; bladder was felt to contain about half an ounce of urine. No cause for obstruction found. Drained with rubber tube and gauze plug.

First 24 hours.—Temperature rose to 100·6°; pulse about 170; child very ill and restless; vomited frequently, bright-green stuff at first and later yellow; no fæces or flatus passed in spite of enemata; constantly cried for something to drink; quantities of blood-stained serum continued to drain away; dressing changed four-hourly; child moribund; fed on albumin water and brandy, and rectal saline not retained.

Second 24 hours.—Child still moribund; pulse practically [illegible] every hour; temperature 101·5°. In the afternoon flatus and fæces passed and again after enema; catheter passed at 9 P.M. and one ounce urine drawn off.

Third day.—Bowels opened frequently; urine passed naturally; temperature falls to normal; child much better; wound healing; no discharge from wound.

The child now made an uninterrupted and complete recovery."

Remarks.—That the illness was directly due to the salts will at once be conceded. The child had been in perfect health up to the moment of taking the dose. He then became acutely ill. Now a medium-sized teaspoonful of Epsom salts is found to weigh about half an ounce—a very large dose for a child of this age. The earliest symptoms, as one would expect, were those of gastric irritation, undoubtedly produced by the action of the undissolved salt. The condition of shock which developed later might conceivably have been due to the same cause, the violent stimulation of the sensory nerve endings in the stomach-wall leading to vaso-motor paralysis, splanchnic engorgement, and depletion of the rest of the body. The nervous system being also in a state of tension owing to the fear of punishment would possibly tend to make the liability to shock greater. Having no corrosive properties Epsom salts could not give rise to perforation of the stomach wall. The appearance, therefore, of symptoms of acute peritonitis was probably due to some mischief further along the alimentary tract. The fact that on opening the abdominal cavity no peritonitis was found did not simplify matters, and the presence of blood-stained serum in the absence of any likely cause for intestinal obstruction made diagnosis still more difficult. The suggestion has been offered that as a result of taking the salts there may have been a volvulus or intussusception causing the effusion of serum. This volvulus or intussusception, it has been urged, could very easily be reduced during the operation (or as the result of the anæsthetic before the abdomen was opened) without being recognised and without necessarily leaving any evidence of its having been there.

Against intussusception is the fact that there were no purging and no tenesmus. The bowels had, in fact, not acted at all. The occurrence of volvulus, on the other hand, is compatible with the violent retching and vomiting. The diagnosis of the condition is notoriously difficult at all times. Whilst this theory, however, accounts for most of the symptoms and appearances prior to the operation it is less easy to reconcile it with the condition of things during the first 24 hours after operation. The persistence of the constipation, the result of paralysis of the bowel, might have been a feature of that state of depression of all the vital functions which is incidental to the condition of shock. The vomiting, however, is not so readily explained. But in the absence of any other explanation of the presence of blood-stained fluid in the abdominal cavity one feels disposed to accept this view.

The extreme rarity with which cases of poisoning by Epsom salts occur is illustrated by the fact that the following six records embrace a period extending from 1841 to 1896. After a pretty thorough perusal of likely sources of information I have failed to trace any other case. This is all the more surprising when one considers the extreme frequency with which the drug is administered and the heroic manner in which it is often dispensed.

CASE 1 (*Taylor's case*).—An old man whose bibulous habits were well known to his neighbours became the victim of a practical joke at the hands of two of his associates. These men, it appeared, added very large quantities of Epsom salts to his beer. On drinking several pints of this medicated stuff he was suddenly seized with violent purging and died in 48 hours. The mucous membrane of the alimentary canal was found to be inflamed and Taylor adds "there was no doubt that death was due to the irritant effect."[1]

The fatal issue here appears to have been due to the purgative action of the irritant. By causing very rapid loss of fluid from the body it gave rise to the condition of collapse, and the fatal result was doubtless accelerated by the degenerated condition of aged and alcohol-poisoned tissues. This case is the least interesting of the group. The action described is not peculiar to this salt but is common to all cathartics when administered in very large doses. The case, however, is referred to in the older books on toxicology as a classical instance of poisoning by Epsom salts.

CASE 2 (*Christison's case*).—A boy, aged 10 years, was given two ounces of salts, partly dissolved and partly mixed in a cupful of water, by his father, who thought that he was suffering from worms. Immediately on swallowing it he was noticed to stagger and fall. When seen by his medical attendant half an hour later the breathing was slow and difficult, the pulse was imperceptible, and the whole frame seemed to be in a condition of great debility. He died in 40 minutes. There had been no vomiting or purging and there were no morbid appearances after death. "This case shows," says Christison, "that in certain circumstances the laxative neutral salts may be irritating enough to cause death."[2]

One may reasonably infer from this history that death was due to syncope. The large dose—the morbid action of which was, no doubt, intensified by the fact that part of it was undissolved—on coming into contact with the stomach wall of a very youthful subject initiated powerful afferent impulses which reflexly brought about that cardiac exhaustion which is a prominent feature of the case.

CASE 3 (*Neale's case*).—A boy, aged 15 years, took one ounce of salts in solution on an empty stomach 24 hours before he came under the physician's observation. There had been three very small motions. A few hours after he had taken the dose he felt sick and this symptom continued throughout the night. The following day he tried to work but had to give up the attempt. Vomiting continued at frequent intervals. When first seen he was lying in an

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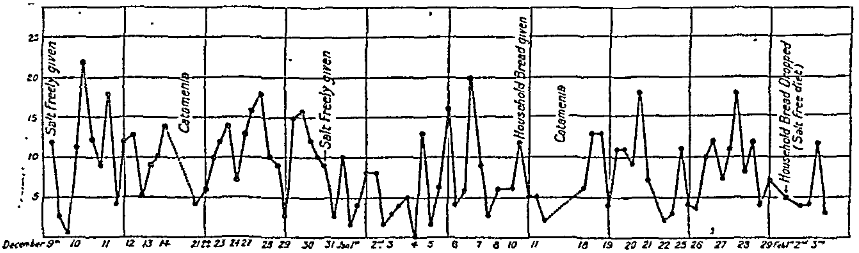
[1] Taylor: On Poisons, p. 4.

[2] Christison: On Poisons, p. 574.

this tumour there was œdema of the leg, while above it the thigh was normal. Whilst resting no œdema of the left leg was present, but it developed after she had been walking about several hours and always rapidly disappeared. No local cause was discovered, neither was there anything in her past history to suggest thrombosis. In general appearance she was a healthy, well-developed woman; anæmia was not present and she was not cachectic. She had no cardio-vascular changes. The heart's apex beat was in the fifth space and was not dislocated outwards, while on auscultation the pulmonary second sound was louder than the aortic second sound. Ophthalmoscopic examination revealed no changes in the discs, and the average blood pressure was between 120–130 mm. of Hg. For the *first two days of* her stay in hospital no albumin was found in the urine; on the third day it was present in large quantities. Microscopic examination revealed the presence of hyaline and granular casts; while the proteids were found to be albumin and globulin; no albumoses were present. On two other occasions, on Nov. 19th and Jan. 4th, the urine had been free from albumin. Between Nov. 12th and Dec. 9th one specimen of urine was tested daily for albumin by being boiled and acidified with acetic acid. The amount of albumin present was found to vary within very wide limits. On some days the urine boiled solid, on others only a faint cloud would be present, so that from Dec. 9th until her discharge, whenever practicable, the percentages of albumin were tested by Esbach's method. Three specimens daily were usually examined and the fluctuation in the amount of albumin present was noted. (See Chart.) The average quantity of urine voided daily was between 25 and 26 ounces; the maximum quantity observed during her residence in hospital was 40 ounces. With rest in bed the œdema of the right leg and the œdematous mass in the popliteal space [illegible] was allowed to [illegible] its original pr[illegible] placed on a rigidly salt-free diet and it was then found that the œdema rapidly subsided, though she was allowed to take exercise as before. Since then to the date of her discharge on Feb. 4th she has been confined to food containing no salt or to a diet containing household bread instead of salt-free bread, and no return of the œdema was observed, though, as *would be expected, the amount of albumin present in the* urine varied widely as before.

Several interesting features were presented by this case. The most prominent was the localisation of the œdema, the main position of which was in the right popliteal space, and the fact that for six years it was unilateral. In addition the entire absence of cardio-vascular changes secondary to the lesion in the kidneys is noteworthy, together with the fact that on four separate occasions albumin was completely absent from the urine. In spite of the large amount of albumin lost daily her general health was very good and she exhibited none of the anæmia and cachexia so frequently present in patients suffering from chronic Bright's disease.

In conclusion, I have to thank Dr. J. Rose Bradford for his courtesy in permitting me to publish in more detail the features of this case, a short account of which has appeared in the Proceedings of the Royal Society of Medicine.



The figures on the vertical column indicate the number of grammes of albumin excreted per litre of urine.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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THE TREATMENT OF BRONCHIECTASIS BY THE CONTINUOUS INHALATION OF OXYGEN (STOKER'S METHOD).

BY W. P. HERRINGHAM, M.D. OXON., F.R.C.P. LOND.,
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A YOUTH, aged 20 years, was admitted into St. Bartholomew's Hospital, under my care, on Oct. 20th, 1908. He was a small, ill-developed, thin fellow. He had had no illness until 18 months ago, when, while ship's cook on board a trawler, he had been seized with an illness the leading symptoms of which were cough and pain in the side. He had never been well since, and had for a long time been spitting a copious and offensive discharge. The left side of the chest was shrunken and the heart was drawn outwards. The lower part of it was very dull, and resonance in the upper part was impaired. There were signs of a cavity near the apex and râles all over the rest of the lung. The temperature was normal; the sputum was repeatedly examined for tubercle bacilli without result, and tuberculin injections of 1-400th and of 1-200th cubic centimetre (O.T.) produced no rise of temperature. An injection of 1-80, which was given three days later, was followed by a fever lasting three days, the temperature reaching 104° F., which I believed to be due to some other infection. Calmette's reaction was negative. The sputum was full of staphylococci and streptococci, and at first amounted to from 8 to 12 ounces a day. It was extremely offensive. On Nov. 9th he began to inhale oxygen in a small stream continuously for six hours a day out of one of the bags invented by Dr. George Stoker for the purpose, which I borrowed to make trial of the method. He continued to do so until Dec. 2nd, when I stopped this treatment, and for purposes of comparison began the inhalation of creosote vapour in the chamber which we have built for the purpose at the hospital. On the 16th I began the oxygen again and continued it until Feb. 2nd, when he was discharged.

The points to which I wish to draw attention are: (1) the amount; (2) the odour of the sputum; and (3) the general feeling of the patient under the treatment. From Oct. 20th to Nov. 8th the sputum was from 8 to 12 ounces in amount and extremely fœtid. The oxygen was begun on Nov. 9th. The following are my notes: "Nov. 13th. Sputum for the last three days has averaged only 4 ounces. It is much less fœtid. Cough is less and he has much better nights. 17th. Sputum averages 3 ounces. 24th. Sputum now 2½ ounces. *Dec. 1st. Sputum averages 2 ounces,* has only a mawkish smell, no fœtor. Oxygen discontinued. 2nd. Creosote inhalations begun. 8th. Sputum averages 4 ounces. 15th. Sputum averages 5 ounces; is more offensive than when he was taking oxygen. Coughs more. 16th. Oxygen begun again. 21st. Sputum averages 1½ ounces, less offensive. 28th. Sputum averages 1 ounce, hardly smells at all," and so it remained. There was no question about his own opinion or that of the sister of the ward. He liked the oxygen far better than the creosote; he felt better, and ate better while under its influence. I may add that in my opinion he undoubtedly did better and looked better.

I do not think there is any more troublesome complaint to treat than this of offensive sputum with bronchiectasis. It appeared to me to be just the sort of case in which oxygen inhalations should be tried. They are much less unpleasant than creosote, and they appear to me to have been in this case much more effective. I should strongly recommend it for similar cases. I will add that as this man was a mouth-breather I stuck a small vulcanite tube, like the mouthpiece of a pipe, into the end of the tube leading from the bag of oxygen, and put it in his mouth. It was no trouble to him.

Wimpole-street, W.

A NOTE ON A CASE OF CYSTIC OVARY.

By Grenville P. Jones, M.R.C.S. Eng., L.R.C.P. Lond.

On March 13th, 1908, I was called to see an unmarried woman, aged 23 years, who for the last three years had been complaining of a persistent dull aching pain in the left iliac region. Though better at times she was never quite free from the pain. During the past 12 months she had been practically confined to the house, spending most of the time in bed. Catamenia were very irregular and painful, and she often went three or four months without a period. She had been treated medically for some time and her symptoms were looked upon as neurotic.

On examination of the abdomen it was found to be much distended with flatus, but nothing else abnormal could be made out. She was ordered a mixture containing small doses of magnesium sulphate for two weeks, which relieved the distension, but the pain remained as bad as ever. I then asked my partner, Dr. G. M. Sharpe, to administer an anæsthetic so that a complete investigation into the symptoms could be made. I found, on a bimanual examination, some thickening in the left ovarian region but no more definite condition. As, however, she had been complaining for such a long time and was now unable to leave the house through the pain, I decided to open the abdomen. This was done through the sheath of the left rectus muscle, when we found the left ovary to be entirely cystic. In size it was only slightly larger than the opposite ovary. The left Fallopian tube was congested and unhealthy-looking, and there were several old adhesions between it and the intestines. I removed both the tube and ovary and closed the wound in the ordinary way. The patient made an uneventful recovery and is now walking about, not having had any return of the pain since the operation.

This case shows how essential it is to examine these patients, with apparently neurotic symptoms, under an anæsthetic.

Pateley Bridge, Yorks.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION.

Experiments and Experiences—P[illegible] Clinical—with Heart Tonics.—Action [illegible] upon Each Other.

A meeting of this section was held on April 6th, Dr. T. E. Burton Brown, the President, being in the chair.

Dr. J. Gordon Sharp read a paper entitled "Experiments and [illegible] and Clinical—with Heart Ton[illegible] p said he had examined many specimens of tincture purchased in the open market, and of these several had been found to be inert, having no action on the frog's heart. With the aid of a pharmacist he had endeavoured to find out some of the causes which led to inert preparations being sold: (1) leaves other than those of digitalis might be collected, and unless the batches were examined by someone knowing the characteristics of the leaf error might occur; and (2) a more important cause was improper drying, because if the leaves were allowed to steam the ferment contained in the plant would break up the glucosides. The action on the frog's heart when the tincture was injected into the dorsal lymph sac was next discussed, and Dr. Sharp said that digitalis differed in its action from squill and strophanthus. It did not so certainly stop the heart as strophanthus, but when it did so the ventricle might be found still while the venous sinus and auricles were beating. He emphasised the importance of having preparations of digitalis, squill, and strophanthus pharmacologically standardised. In discussing the action of the drug in man Dr. Sharp said almost the only way of judging of the effects of digitalis or other heart tonic was an indirect one—namely, whether the drug under consideration would remove a cardiac dropsy after rest in bed had failed. To credit any substance as a heart tonic because it appeared to tone up the pulse, lessen the area of heart dulness, or relieve palpitation was evidence of an uncertain character, because there was room for so much divergence of opinion on these points. Dr. Sharp said digitalis acted much more quickly than was generally supposed. He considered the tincture as the handiest preparation; when it was rejected the drug could be given in pill form. It acted most quickly when it was given in doses as large as could be tolerated. Digitalis was the only real heart tonic. 2. Squill preparations were not so often found to be inert as digitalis or strophanthus. They acted energetically on the frog's heart and in poisonous doses appeared to wear out the heart by its energetic action. However, in actual practice these acted up to a certain point and then failed entirely. Their chief use was as an adjunct to digitalis. 3. Strophanthus preparations were often found to be inert in the past, but within the last three years so much attention had been directed to the importance of having standardised preparations that this difficulty would disappear. The drug acted with certainty in the frog's heart and in poisonous doses appeared to stop it in all its anatomical parts simultaneously. In man its diuretic action seemed to be direct—namely, on the secretory tubules of the kidney—as opposed to the indirect diuretic action of digitalis (and in part so in squill) through the circulation. Although it did not act in cardiac dropsy like digitalis, it might by its stimulant action on the kidneys produce a certain amount of diuresis. Given in 20 to 30-minim doses of the tincture it had in many cases of cardiac dropsy a general analgesic action without any real effect on the dropsy. It gave comfort to the patient.

Dr. William Bain read a paper on the Action of Digestive Ferments upon Each Other. He referred to numerous experiments which he had made and described some of these in detail, pointing out the practical application of those results in treatment.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Exhibition of Cases and Specimens.—Henoch's Purpura.

A meeting of this section was held on March 26th, Dr. E. Cautley being in the chair.

Mr. P. Macleod Yearsley showed a case of a Peculiar Form of Word-deafness successfully treated by the Oral Method. The child could not appreciate heard speech, which she merely repeated aloud, but when she was able to see the speaker such seen speech (lip reading) was immediately answered rationally. The word-deafness apparently prevented the higher centre being effective, but she had now learnt to understand by lip reading. After practice with great effort heard phrases were now understood and answered without the motor response of repeating the question. Mr. Yearsley thought that it was difficult to explain the case on any hypothesis other than that of weakness of the auditory centres.

Dr. H. C. C. Mann exhibited a specimen of a Tumour of the Left Suprarenal obtained from the body of a child aged two years. The growth was 7 inches long by 4½ inches broad. The kidney lay at its lower pole. The growth extended through the diaphragm, invading the pericardium and left lung. The left pleural cavity contained nearly a pint of blood-stained fluid and showed small secondary growths. The cervical glands were sarcomatous. Secondary deposits were also found in the orbital plates, in the right parietal bone, and in the sternum. The child came to hospital with a history of six weeks' weakness and anæmia. A leucocyte count showed 15,000 white cells; hæmoglobin and red cells, 60 per cent. The tumour, which was apparently splenic during life, enlarged rapidly under observation. It moved well with respiration. Death occurred two months later. The tumour was a round-cell sarcoma.

Dr. Cautley showed: 1. The brain from a case of Cerebral Diplegic Spasticity, which had been shown to the section on Feb. 20th, 1909. The whole of the frontal and parietal regions was converted into a bilateral cystic form, bounded mesially by a wall containing a moderate amount of brain substance. According to the history, the child had been healthy till the age of seven weeks and then had an illness which could be accounted for as encephalitis or meningitis. The post-mortem appearance made it more probable that the condition was congenital, dependent on developmental error in the prosencephalon. 2. A specimen of Congenital Heart Disease, showing transposition of the *aorta and pulmonary artery. The right ventricle was the* larger and gave off a normal aorta, from which the great vessels arose by a common origin. The left ventricle gave off the pulmonary artery which was stenosed on account of two of its valves being adherent. There was a small opening in the interventricular septum and the foramen ovale was patent. The ductus arteriosus was normal. The child lived till 11 months, showing moderate cyanosis and clubbing. The heart was enlarged to the right of the sternum. There was a systolic pulmonary murmur and a systolic murmur heard at the apex and behind.—Dr. F. S. Langmead said that there was a specimen in the Museum of Great Ormond-street Hospital which closely resembled Dr. Cautley's first case. It showed some narrowing of the small cerebral vessels.—Dr. G. Carpenter said he had neither seen nor read of a case like Dr. Cautley's, but had seen a locular cystic condition which Dr. A. Ernest Jones reported was, in his opinion, syphilitic. *During life the child had been spastic, with head retraction,* and showed atrophic patches in its choroid.

Dr. A. J. Jex-Blake showed a female child, aged seven years, with Congenital Heart Disease. She had a good colour and weighed 28 pounds. Over the pulmonary area a continuous murmur could be heard, loudest during systole. It could also be heard over the whole chest back and front.—Dr. T. R. C. Whipham thought there were one or two small glands to be felt in the neck. If the *murmur was not due to glands he would agree that it was* caused by a patent ductus arteriosus.—Dr. G. de B. Turtle asked whether the murmur varied in intensity from time to time. That was so when it was due to enlarged glands.—Dr. Cautley thought that it was a purely systolic murmur and was inclined to ascribe it to some pulmonary stenosis and patency of the interventricular septum than to any other defect, because there was so much hypertrophy. The child had not grown well, which he thought meant a bad prognosis.—Dr. Jex-Blake replied that the murmur had not been noticed to grow louder or softer at different times.

Dr. Carpenter showed a case of Congenital Malformation of the Heart, showing a patent ductus arteriosus with bicuspid aortic valves. The child died at the age of three months. During life there was a systolic murmur, best heard over the third left space, just inside the nipple line, conducted towards the left clavicle. The left side of the heart was the larger. *The right ventricle was dwarfed.* The foramen ovale was closed.

Dr. Whipham gave a pathological report upon the specimen of Congenital Cystic Disease of the Kidneys showed at the section on Jan. 22nd, 1909. The sections showed small cysts with a great increase of connective tissue. The tubules were mostly dilated but many were contracted. The glomeruli were somewhat contracted but Bowman's capsules were dilated. The arteries were thickened. The pancreas showed some *fibrosis and thickening* of its vessels. The bile-ducts of the liver were dilated and convoluted. T[illegible] ctive tissue.—Dr. F. Pa[illegible] es in the portal fissures [illegible] bile vessels. In that [illegible] cystic liver.

Dr. [illegible] and photographs of a case [illegible] petigo in a boy, aged four [illegible] of hæmophilia or of syphilis in the patient or his family. The fluid from the bullæ contained degenerated blood corpuscles, but no growth of organisms could be obtained by cultivation. From the impetigo lesions a mixed growth of staphylococcus albus, citreus and streptococcus was obtained. The patient was given boric baths, and the bullæ either were punctured or burst spontaneously, leaving deep sloughing ulcers. Under treatment with hydrogen peroxide, chinosol baths, and balsam of Peru dressings the ulcers cleaned and the condition was now cured.—Dr. G. Pernet referred to a paper he had read on Bullous Impetigo Contagiosa in Children who had Pediculosis. The purpuric condition was more unusual. He thought, in the present case, that the purpura was of streptococcal origin.

Dr. Whipham showed a case of Transposition of the Viscera in a girl, aged eight years. There was a mitral systolic murmur at the heart's apex. The child had had chorea twice.—Dr. Cautley thought that such cases were not so uncommon as one was led to believe in books. He believed that prognosis of life was just as good as if the heart were not transposed.—Dr. F. J. Poynton and Dr. F. Langmead *thought that if the heart was on the right* side of the body there was greater liability to endocarditis.—Dr. Parkes Weber asked whether proposers for life assurance should be rated up if the viscera were transposed?—Dr. Whipham thought not.

Mr. C. L. Addison showed (1) a case of Ankylosis of both Hip Joints ascribed to Scarlet Fever, and (2) a Case of Syphilitic Osteoperiostitis.—Dr. Cautley asked what treatment had been adopted in the second case, and Dr. E. I. Spriggs asked whether *the tissues or fluids had been* examined for the spirochæta.—Mr. Addison replied that after operation the general conditions had improved under mercury and iodide. There was still a sinus over the tibia. Spirochætæ had not been looked for.

Dr. Poynton showed a case of Congenital Symmetrical Swellings on both Heels in a girl. His view was that they were lipomata.—Dr. Pernet agreed.

Dr. Carpenter showed a microscopical specimen of the liver from a case of Icterus Neonatorum in a child, aged 19 days. She became jaundiced on the second day. The navel was healthy. The stools were green. There was a systolic murmur over the left pulmonary area and in the left axilla. Post mortem, the liver was not enlarged, but its section was a deep mahogany colour with large visible veins. As far as the bile ducts could be traced they were empty and not obstructed. Microscopically, the liver cells were crammed *with bile granules of an olive-grey colour. The fine bile* capillaries were filled with inspissated bile in irregularly shaped masses, and showed a moniliform outline.—Dr. Spriggs said that it was not necessary for there to be gross blockage for the production of obstructive jaundice, not only in the condition of toluylenediamine poisoning, but in acute yellow atrophy and phosphorus poisoning. It was probable that the jaundice occurred because of the catarrh of the small bile-ducts. That might also account for liver cells containing particles of pigment.—Dr. Poynton referred to tw[illegible] in [illegible] pr[illegible] He did not think that such cases were common.—Dr. Parkes Weber referred to cases in which several children of the same parents had had jaundice, some of them having died.

Dr. J. Porter Parkinson read a paper upon three cases of Henoch's Purpura. Case 1 was a boy, aged eight years, who suffered from pain in the legs and abdomen and a purpuric rash over most of the body and limbs. The spleen could be felt. The urine contained albumin and occasionally a trace of blood and casts. The abdomen was tender in the epigastric and right iliac regions, and there was occasional vomiting. The child was treated with two injections of horse serum without any improvement, but recovered and was discharged with the urine still albuminous. Case 2 was a *boy, aged six years, suffering from abdominal pain and* vomiting. There were purpuric spots all over the extensor aspects of the limbs. The abdomen was not tender. The urine contained albumin and occasionally blood. In hospital he was suddenly attacked with abdominal pain and the abdomen became tender in the left lumbar region. The pain continued on and off for nearly two months, occurring in crises every two days. Blood was found in the stools during most of this time. Later the face became puffy, especially *the lips and eyelids, but the child began slowly to improve.* The treatment was at first calcium chloride and later three injections of horse serum. Two fresh groups of purpuric spots appeared while the child was taking calcium. The third case, under the care of Dr. Charles Bolton, was a boy, aged six years, who came into hospital with severe pain and passing blood in the stools with a measly non-purpuric rash and coryza. On the next day he vomited and passed blood and mucus by the rectum. The abdomen becoming distended, it was thought that intussusception might be present and the abdomen was opened but none found. There were flecks of lymph in the peritoneum with some appearances of general peritonitis. The boy died on the following day. At the necropsy there was general peritonitis and on the small intestine were 13 hæmorrhagic extravasations of about the size of peas and projecting on both outer and inner surfaces of the intestine. About a foot from the iliac valve there was a collection of much larger hæmorrhages. The small intestine was distended with gas, and the large intestine as far as the splenic fissure, where for about six inches it was quite dark from diffuse hæmorrhage, thickened, and looked almost gangrenous. The diagnosis lay between measles and Henoch's purpura, the suspicion of intussusception not being verified. Dr. Parkinson thought that it was a case of purpura, but the absence of blood and albumin in the urine was unusual. The case supported a suggestion of Mr. Hugh Lett made in the Reports of the Society for the Study of Disease in Children that it is advisable not to operate for intussusception in a case of Henoch's purpura unless an abdominal tumour can be felt.—Mr. HUGH LETT said that the presence or absence of intussusception in Henoch's purpura was very important. He had reported a case in which intussusception had developed during the illness and was reduced by operation. 17 days later another intussusception occurred and the child died. He thought that the crucial feature to be relied upon was the presence of a sausage-shaped tumour and that there should be no operation where a tumour was not felt. He had operated upon 28 cases of intussusception, in all of which he felt a tumour either from the abdomen or per rectum. In two or three of them he could not feel it without an anæsthetic. Surgical operation in Henoch's purpura was a very serious matter and in some cases the patient had died of hæmorrhage from the wound. If he saw another case of undoubted intussusception with purpura he would be inclined to try injection before operation.—Dr. LANGMEAD said that a tumour might be present simulating intussusception but due to extravasation of blood, and Dr. SPRIGGS referred to another case showing this condition.—Dr. CAUTLEY thought that the term "Henoch's purpura" should be dropped, as the disease was simply purpura hæmorrhagica with abdominal symptoms, and Dr. PERNET agreed.

Mr. J. P. LOCKHART MUMMERY showed a case of Hyperplastic Tuberculosis of the Rectum in a boy, aged 10 years. There was no pain or straining but the bowels were loose, being opened as many as 20 times a day. There was no vomiting or wasting and the appetite was good. Large masses could be felt projecting in the rectum from all sides, irregular in surface and shape. With the sigmoidoscope several ulcers about a third of an inch in diameter were seen and had the appearance of tuberculous ulcerations. The whole of the mucosa of the rectum was red and swollen. The ulceration quickly cleared up as the result of daily irrigation with weak antiseptics.

Dr. CARPENTER showed a case of Scurvy in a boy, aged 16 months. He had been reared on cow's milk and barley-water for the first three months, and afterwards had been given bread-and-milk, &c. He was admitted to hospital with a history of two falls, and was found to have a bruise over the right eye and a hæmatoma of the scalp with a cranial fracture. After 12 days he was discharged as cured and continued in good health for six weeks when he was readmitted with a swelling in the left arm without any history of injury. The swelling extended from the shoulder on to the forearm. There were also marks of old hæmorrhages on the backs of both feet. The skiagram showed no fracture. He had improved very much on a suitable diet.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

Beri-beri.

A MEETING of this society was held on April 16th, Sir PATRICK MANSON, the President, being in the chair.

Dr. W. LEONARD BRADDON (Selangor, Federated Malay States) communicated a paper on Beri-beri, which was read by Dr. T. S. KERR. The writer said that in British Malaya the European civil population shared with the native races all the possible factors of causation of disease; there was between them the difference only of food; the natives were rice eaters, the Europeans were not; the Europeans, with rare exception, never got beri-beri, the natives did. The Sikhs, Pathans, and Punjabis, of whom there were some 10,000 in the Straits Settlements and native States, whose customary diet was wheat flour, exhibited as a community an immunity from beri-beri as complete as that of Europeans; of 4237 hospital patients of that class, less than 1 per cent. were diagnosed as beri-beri, some of whom, as paupers, had been fed on rice. In Japan, where the natives (rice eaters) were attacked, the numerous colony of Europeans and Americans of every class, and even the Ainhos (non-rice eaters) escaped. If beri-beri, wherever occurring, was due to rice, then it was urged its incidence on rice eaters ought to be everywhere the same instead of as at present showing such violent contrasts, one rice-eating community being unaffected, another being exterminated. That assumed rice to be always the same, but that it certainly was not, and the facts which followed were evidence that among rice eaters beri-beri attacked only eaters of certain sorts of rice. For the Tamil the rice was prepared from grain which was boiled before the husk was removed (cured rice). The Chinese, on the other hand, never used cured rice. Both races were susceptible to beri-beri. Always and everywhere the uncured rice-eating community (the Chinese) suffered from beri-beri. The cured rice eaters (the Tamils) with equal invariability escaped. There was abundant evidence to show that among rice eaters those who consumed fresh village rice—e.g., the agricultural Malay, the Dyak—were exempt from beri-beri, so that among rice eaters beri-beri attacked only those who ate certain sorts; cured and fresh rice were innocuous. Cured rice, which did not produce beri-beri in its consumers, consisted of the whole grain from which only the husk had been removed, so that rice itself *qua* rice was not poisonous, and the factor in uncured rice which entailed beri-beri must therefore be some quality added to or lacking in the original grain. In uncured rice the fat and proteid content was reduced; moreover, the seed divested of its protective envelope readily decayed and was more easily attacked by various agents of decomposition. It was always more or less stale. Numerous observations proved that lack of fat was certainly not a cause of beri-beri; and although there seemed more evidence in the proteid starvation view propounded by Takaki, a survey of the published dietaries of the communities among whom beri-beri was severe furnished evidence that proteid if deficient in them was not so to such an extent that it could have been productive of disease. The presence of a poison in uncured rice explained all the phenomena of beri-beri; the disease being due to a poison present in variable proportion in the rice consumed, the effects will be proportionate to the quantity of noxious rice eaten, and the length of time during which it was eaten. In epidemics in which the diet had been improved, where it was claimed that the disease had been thereby checked, there had been, simultaneously with the addition of other articles, a reduction in the amount of rice. It was plain, therefore, that the toxic quality of the uncured rice which produced beri-beri was an added effect; either the grain itself became altered in its nature (poisonous proteins) or it became the seat of growth of agents (e.g., ferments, bacteria, fungi) which produced a poison of their own. In both cured and fresh rice the grain had been boiled or cooked almost at the same time as it was husked, uncured rices being boiled and eaten only long after they were husked. The difference between rice which was toxic and rice which was non-toxic was therefore a question of boiling early or boiling late. A time element was imported—implying change, a process of some kind, a growth in uncured rice for which time was required but which simple boiling of the grain immediately it was stripped of its envelope entirely prevented. There could be little doubt that the noxa was a living thing, but whether an enzyme or an epiphyte, who could say? From the observation that horses fed on unhusked rice became affected with a disease resembling beri-beri it was conjectured that the active agent was some epiphyte existing in or upon the envelope of the rice and able to invade it saprophytically under appropriate conditions when husked. It was specific to rice, as the use of no other cereal had been proved to entail beri-beri. The evidence, it was claimed, proved conclusively what from want of facts Van Dieren was not able to more than indicate as probable, and there had been demonstrated the fact that the change which rendered such rice poisonous might be avoided if, when it was necessary to store it unhusked, it were boiled before husking.

Mr. A. R. WELLINGTON (medical officer in Sarawak) communicated some notes on Beri-beri Outbreaks among Chinese, Dyaks, Malays, Javanese, and Tamils in the gaols and hospitals and in the mining and agricultural districts and communities of Sarawak. Some of the facts, he noted, would seem to indicate that beri-beri was infectious, others that it was due to food intoxication; in one case he considered that its disappearance was undoubtedly due to change of diet. He was unable to prove that bed bugs were carriers of beri-beri, but since the bed bugs in the general hospital at Kuching were got rid of no fresh cases had arisen there. As regards lice, he had no evidence to offer except in so far that beri-beri broke out in gaols and institutions where the inmates were subject to inspection and presumably therefore less lousy than the general population. With regard to rice, he asserted that beri-beri was unknown amongst the Dyaks, the natives of the interior, who husked their own "padi," yet those people if they came to an endemic area were just as apt to suffer as the Chinese. He instanced the case of a gaol in which the prisoners were fed on native newly husked rice and among whom no case of beri-beri had ever occurred; in Baram, too, they claimed to have ousted the disease by feeding people on fresh rice, not necessarily native rice, but Siam rice, which looked fresh. On the other hand, among the coolies at Brooketon coal mines beri-beri was at one time rampant, whereas now there was none, yet no change had been made in the rice used. Instances were cited by Mr. Wellington as cases of apparent infection, and as showing the difficulties of tracing beri-beri to rice intoxication he quoted many more instances. He then quoted possible instances of place infection or of infection conveyed from one individual to another, and gave details of an undoubted instance of the disappearance of beri-beri from Kuching jail following the use of freshly [illegible] nt. of [illegible] three [illegible] slight [illegible] as to be overlooked, in other cases fairly severe and akin to influenza and often diagnosed as such, but followed on the third or fourth day by numbness and weakness and confirmed as beri-beri by the subsequent history.

Dr. W. CARNEGIE BROWN said that in Italian ships in which the crews lived on rice and in which the sanitary conditions were bad beri-beri was unknown, but in Norwegian vessels in which the dietary was good, with but little rice, and the sanitary conditions were good beri-beri was very common. Beri-beri was a disease of association.

Brevet Lieutenant-Colonel W. B. LEISHMAN considered that perhaps rice would be found to play an important part in the causation of beri-beri.

Replying to Dr. J. L. MAXWELL, Dr. CARNEGIE BROWN stated that the husk was removed from the rice at the mill, but the rice was stored at the mill sometimes for five or six months before being husked.

Mr. JAMES CANTLIE said that it looked as if the long storage of the rice might have something to do with the question.

Dr. G. C. LOW observed that the cases of beri-beri in ships were identical with cases of beri-beri in the East.

Dr. T. S. KERR said that since orders had been given that the inmates of public institutions in the Straits Settlements should be fed on cured rice not one case of beri-beri had occurred in those institutions.

Dr. J. P. BRADLEY said that in the prison at Seychelles beri-beri was observed to break out when the prison was crowded.

The PRESIDENT mentioned that Tamils living on cured rice in Rangoon contracted beri-beri. Until the germ or the toxin of beri-beri was discovered, and until direct experiments could be carried out and the results watched, it would not be possible to decide the question.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Atmocausis.—Rotunda Hospital Reports.

A MEETING of this section was held on April 2nd, Mr. E. H. TWEEDY, the President, being in the chair.

Dr. R. D. PUREFOY showed a small Uterus removed for recurrent hæmorrhage from a patient, aged 50 years, the mother of some children. She had been curetted in the first instance and some thickened membrane had been removed. Some improvement was made, but the hæmorrhage recurred. Atmocausis was applied, but after another violent recurrence the uterus was removed. The specimen showed enormously thickened uterine walls and almost complete absence of endometrium.—A discussion followed on the value of atmocausis in the treatment of similar conditions, in which Dr. A. N. HOLMES, Dr. H. JELLETT, Sir W. J. SMYLY, Professor A. J. SMITH, and the PRESIDENT took part.

Mr. J. S. SHEILL exhibited an improved Material for Ligaturing the Umbilical Cord

Professor SMITH opened an adjourned discussion on the Obstetrical and Gynæcological Reports of the Rotunda Hospital. He said that there was little difference between the report and those of 12 years ago. Recent reports seemed to have become stereotyped. It was a most striking fact that the work done in the extern and intern departments was practically the same as regards results. Such a fact reflected great credit on all concerned and was an immense change from olden times, when it was safer to be confined outside a maternity hospital than inside it [illegible] was high in operative cases in [illegible] care was taken.—Sir WILLIAM [illegible] good thing that the report had assumed a stereotyped form, as it enabled them to make comparisons and to note advances such as the report showed. In 1886 there were four deaths out of 15 abdominal sections; in the present report there was one out of 10 times that number: that was a remarkable advance. He thought the report was the very best he had seen, both as to the matter it contained and the way in which it was brought out.—Dr. F. W. KIDD, after commenting on certain cases in the report, said that there were 235 abortions in the extern department and only 40 in the intern, although the total numbers attended were practically the same in each department. He thought that was due to women staying at home in preference to going to the institution. He observed that there were 3½ times more adherent placentas in the extern than in the intern departı [illegible] made to expel the placent [illegible] made to contract and [illegible] ident may have rushed [illegible] He thought the morbidity table served to emphasise the danger of the introduction of [illegible] —Mr. SHEILL said th [illegible] vomiting" and "eclar [illegible] that the urine of the patients contained albumin, but there was no mention of the output of urea or ammonia, which was considered to be of importance in diagnosing the severity of a case. He made a practice of estimating the output of urea on the appearance of the first sign or symptom of toxæmia and found it of great value. Also in pernicious vomiting, if the percentage of ammonia reached eight or ten of the total nitrogen excreted, then it was an indication for emptying the uterus.—After Dr. PUREFOY, Dr. HOLMES, Dr. T. NEILL, and Mr. TREVOR N. SMITH had discussed different aspects of the report, Dr. JELLETT said there were very few reports of any hospital of the kind that could produce the statistics shown in the tables of eclampsia and Wertheim's operation They stood out as important proofs of what could be done by careful treatment and successful operation. He thought there was nothing so important as keeping reports stereotyped for purposes of comparison, though not excluding fresh matter. He observed the omission of some tables which were formerly included, such as those on prolapse of the cord, post-partum hæmorrhage, and the sex of twins.—The MASTER OF THE ROTUNDA, in reply, said he made it his object to take up one or two fresh subjects in each report, and he had dealt with the treatment of eclampsia the previous year. His mortality was 11 per cent., as compared with 35 per cent. 20 years ago. He had not dealt with pubiotomy, as they had not had a case during the year. He dealt with it fully last year, when they had five cases. He preferred Cæsarean section as an easier and safer operation if he got the case in time. His indication for performing pubiotomy arose when he was sure he could not get a living child save by enlarging the pelvis. Ether was used in [illegible] of Cæsarean section that died. It was an extraordinar [illegible] t hæmorrhage. [illegible] mith was

also most thorough, and he points out that it is impossible to give a satisfactory account of the pathology at present, since although research has taught us the localisation of the process and how to explain it, it has not revealed its actual starting point or its nature. The article includes a special discussion of the treatment of tabes and is a most valuable account of the disease.

A useful and careful description of syringomyelia is given by Professor F. Schultze. The pathology and pathological anatomy are discussed in some detail. The same authority contributes the article on progressive muscular atrophy, in which the myopathies or muscular dystrophies are also considered, and the various forms which have been separated are regarded as varieties of the same affection. In regard to the spinal forms of progressive muscular atrophy, three varieties are described—viz., the infantile hereditary or Werding-Hoffmann form, the ordinary Aran Duchenne type, and amyotrophic lateral sclerosis or the Charcot form. The article also includes a description of the progressive neurotic muscular atrophy of Hoffmann. The account of neuritis and polyneuritis by Dr. R. Cassirer of Berlin contains a useful classification of the causes. The various forms of mononeuritis and polyneuritis are carefully differentiated and some good coloured plates are given of the pathological changes occurring in these conditions. Dr. L. Edinger of Frankfort-on-the-Main discusses the etiology of migraine and the various forms of headache. Professor Erb describes the characters of paralysis agitans, and while accepting the view that it is the result of a fine nutritive molecular disturbance principally localised in the motor apparatus, confesses that the origin of the disease is still mysterious. Dr. L. v. Frankl-Hochwart of Vienna contributes articles on athetosis, tetany of adults, and Thomsen's disease. He gives a highly interesting account of his own observations on the epidemico-endemic form of occupation tetany and the association of psychoses with it. Professor Th. Ziehen of Berlin, in an interesting and illuminating study of hysteria, gives some valuable and suggestive instructions in regard to treatment. His analysis and description of the protean symptoms of this condition are also helpful and clear. A valuable study of traumatic neuroses is given by Dr. P. Schuster of Berlin, and the various occupation neuroses are described by Dr. Cassirer.

The book as a whole is one which should be of real value to the practitioner as a work of reference in regard to diseases of the nervous system and their treatment.

The Third Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum. By ANDREW BALFOUR, M.D., B.Sc. Edin., F.R.C.P. Edin., D.P.H. Camb., Director. With 28 coloured plates, 51 reproductions of black and white drawings, 263 reproductions of photographs, and 19 maps and plans. London: Published by Baillière, Tindall, and Cox for the Department of Education, Soudan Government, Khartoum. 1908. Pp. 477. Price 21*s.* net.

THE third biennial report of the Wellcome Research Laboratories, Khartoum, continues the record of the valuable and interesting work described in previous reports. But the material which has become available and the scope of the investigations are year by year increasing greatly. The first report was contained in some 87 pages of text, with 61 plates, drawings, and plans; while that just issued comprises 477 pages, with no fewer than 361 illustrations of one or another kind. This is not all, for Dr. Balfour has issued a supplement of 251 pages of additional matter, to which we direct notice separately below. It is not surprising that the material to be reported upon has increased, since the functions of the Research Laboratories as formally set out are extremely far-reaching: they include the promotion of technical education; the study of tropical diseases by the most modern methods, particularly those maladies which afflict man and beast in the Soudan; the rendering of assistance to medical officers in civil and military hospitals, by laboratory investigations, in the diagnosis of disease; the giving of aid in medico-legal inquiries; the analysis of water and foodstuffs; the study of the disorders and pests which attack food and textile-producing plant life; and the undertaking of the assaying of agricultural, mineral, and other substances of importance in the industrial development of the Soudan. Dr. Balfour has made a new departure by including in the present report papers written by Soudan officials, members, for example, of the Egyptian Army Medical and Veterinary Services, and others who are not actually on the staff of the Research Laboratories.

The director of the laboratories is also medical officer of health of Khartoum, and in this capacity he has introduced into the report, under the title of "Sanitary Notes," a very complete description of the sanitary circumstances of that city, giving also a comparison between its present actual condition and that which obtained before the British occupation, illustrated by photographs and plans. Details are given of the water-supply, the conservancy methods, disposal of sewage, the state of slaughter-houses and markets, the milk-supply, and other matters which have to be supervised by the health department. Dr. Balfour points out incidentally the difficulties he meets with in enforcing health regulations, even with the help of the Egyptian policeman, who is, however, we learn, as far as sanitary matters are concerned, "a monument of stupidity," and who often aids and abets offenders "through the kindliness of his heart and the thickness of his head." Incorporated with these Sanitary Notes is an instructive paper on Dwelling-houses in the Tropics, with Special Reference to the Soudan, by Mr. W. H. McLean, lecturer on civil engineering in the Gordon College and municipal engineer for Khartoum. Dr. Balfour has to admit that with the increase of administrative work less time is left to him for the conduct of laboratory investigations. But notwithstanding this he has found time to contribute to the present report scientific articles on Trypanosomiasis in the Anglo-Egyptian Soudan; Hæmogregarine of the Jerboa, &c.; Piroplasmosis in the Soudan; Spirochætosis of Soudanese Fowls; and on Sleeping Sickness in the Bahr-el-Ghazal, to which are appended by Lieutenant R. G. Archibald, R.A.M.C., the pathologist and assistant bacteriologist of the laboratories, additional notes on that disease in Uganda. Other contributions are made on the subject of Kala-Azar in the Anglo-Egyptian Soudan, by Captain S. Lyle Cummins, R.A.M.C., of the Egyptian Medical Service, and by Bimbashi L. Bousfield, R.A.M.C., Egyptian Medical Corps, on Observations of Kala-Azar in Kassala Province. It deserves mention that the cases of kala-azar which came under observation were mostly traced to districts bordering on Abyssinia, where, as in the Soudan, many villages and towns are infested by bed-bugs which are suspected to be the agents in diffusing the disease.

It is with great regret that Dr. Balfour chronicles the death from kala-azar, contracted during his short period of service, of Dr. A. MacTier Pirrie, who was engaged in anthropometrical studies among some of the least known tribes in the wilder parts of the Soudan. His notes and the specimens and drawings which he had collected were submitted to Dr. David Waterston, lecturer on anatomy in the University of Edinburgh, who has been good enough to arrange them and to prepare them for publication under the title of "Report upon the Physical Characters of Some of the Nilotic Negroid Tribes," profusely illustrated by reproductions of photographs and drawings. Other notes on ethnographical specimens collected by the late Dr. Pirrie have been arranged for publication by Mr. D. J. Vallance, curator to the Royal Scottish Museum, Edinburgh.

A most interesting report is contributed by Dr. C. M. Wenyon, protozoologist to the London School of Tropical Medicine, who acted as travelling pathologist and protozoologist during 1907–08, and who made some valuable investigations on board the floating laboratory which was moved up and down the Nile and its tributaries as required. This novel laboratory was suggested by Dr. Balfour, and Mr. H. S. Wellcome generously supplied the equipment. Opportunities were taken by this means to investigate locally certain diseases, including dysentery and guinea worm, and among other things trypanosomiasis in certain animals, including Nile fishes. This report is illustrated by coloured plates. Dr. Wenyon also collected a number of specimens of parasitic worms which were handed on his return to this country to Dr. R. T. Leiper, helminthologist to the London School of Tropical Medicine, who prepared an account of them for publication in the report of the Research Laboratories. Dr. Wenyon, in addition, collected a number of specimens of reptiles at the different stations in the Upper Nile and Bahr-el-Ghazal provinces, as well as a number of poisonous snakes. These collections were examined and reported upon by Dr. Franz Werner, assistant in the First Zoological Institute of the University of Vienna. A most useful report on economic entomology is contributed by Mr. Harold H. King, member of the Association of Economic Biologists, in which he deals with animals injurious to man and animals; those injurious to farm and garden crops; those injurious to trees and shrubs; and lastly, those injurious to stored goods and timber. He has also something to say on fungoid pests and the like. His paper is profusely illustrated by coloured plates, and we can quite understand how it came about that from his conspicuous knowledge of entomology Mr. King was named by the Soudanese "the father of flies." "New Mosquitoes from the Soudan, and List and Synoptic Table of all Soudanese Species," illustrated by many drawings, form the subject of a contribution by Fred. V. Theobald, vice-principal and zoologist at the South-Eastern Agricultural College, Wye. A historical paper on the healing art as practised by the dervishes in the Soudan during the rule of the Madhi and Khalifa appears from the pen of El Bimbashi Hassan Effendi Zeki, of the Soudan Medical Department, medical officer to the Gordon Memorial College. Dr. Zeki, it may be mentioned, occupied the position of medical adviser to the Khalifa in the troublous days preceding the reconquest of the Soudan by the British and Egyptian troops. The native methods of treatment of diseases in Kassala and neighbourhood are discussed by Captain Bousfield, and this paper is supplemented by valuable additional notes contributed by Sir Rudolf Slatin. Medical practices and superstitions amongst the people of Khordofan, their treatment of disease, and their chief drugs, instruments, and appliances in common use are commented upon by Captain R. G. Anderson, R.A.M.C., Egyptian Medical Corps. This paper is illustrated by drawings and photographs and is extremely interesting. The volume concludes with a report of the chemical section of the Research Laboratories by Dr. William Beam, F.I.C., the chief chemist, who was assisted in his important work by Mr. J. A. Godson and by Mr. E. S. Edie, B.Sc., Carnegie research scholar in chemistry 1907–08, who carried out a special research on the chemistry and bacteriology of Soudan gum-arabic.

In the preparation of his third report Dr. Balfour has had to encounter unusual difficulties, the most serious of which was a disastrous fire in May, 1908. In this conflagration a large portion of the Research Laboratories at Khartoum were destroyed along with many specimens and preparations, books, papers, and records which had taken years to collect. Much of the equipment of the laboratories was destroyed or damaged. Thanks in a great measure to the prompt and generous help given by Mr. Wellcome the laboratories were quickly refitted and the work was soon carried on again as before.

Supplement to the Third Report of the Wellcome Research Laboratories, Khartoum: a Review of Some of the More Recent Advances in Tropical Medicine. By A. BALFOUR, M.D. Edin., &c., and R. G. ARCHIBALD, M.B. Edin., R.A.M.C. London: Published by Baillière, Tindall, and Cox for the Department of Education, Soudan Government. 1908. Pp. 251. Price 10*s.* 6*d.* net.

THIS supplement to the biennial report is modestly termed by Dr. Balfour a "review." It is intended to help medical and veterinary officers stationed in the Soudan, especially those in out-stations, by keeping them in touch with current literature. It is also intended to serve as a guide to new books and papers dealing with recent discoveries and advances in our knowledge of tropical and veterinary medicine, bacteriology, and hygiene, more particularly where these have a bearing on the medical, sanitary, and veterinary work in the Anglo-Egyptian Soudan. The subjects dealt with in this "Review," some 89 in number, are arranged alphabetically so that reference to them is easy. They treat mostly of tropical diseases, but there are special articles on various subjects, such as air, blood, climate, clothing, dust, disinfection, filters, flies, food, ice, milk, mosquitoes, sewage, water, and vaccination. The "Review," though intended primarily for the use of officials in the Soudan, cannot fail to be of great service to many workers in other tropical countries. It will also be of value to those who are studying tropical medicine and preparing for examination, particularly as it is provided with a serviceable detailed index which will greatly assist the reader who seeks for information on any branch of a given subject. We congratulate Dr. Balfour and Lieutenant Archibald on the production of this excellent piece of useful work.

Naval Warfare: Its Historical Development from the Age of the Great Geographical Discoveries to the Present Time. By Baron CURT VON MALTZAHN, Vice-Admiral (retired). Translated from the German by JOHN COMBE MILLER. London: Longmans, Green, and Co. 1908. Pp. 152. Price 2*s.* net.

THIS book consists of a series of lectures on the Historical Development of Naval Warfare, delivered at Hamburg by Baron Curt von Maltzahn, a Vice-Admiral of the German Imperial Navy. They were afterwards published in book form for the enlightenment of the German nation, and they urge the supreme need of maritime knowledge and development; and for this very reason the book has a great general significance and is full of suggestion to all Britons, to whom the sea and all that pertains to it are of such vital importance.

Admiral von Maltzahn, in discussing his subject, does not allude to any matters of medical or sanitary interest from the strictly professional point of view. He defines war as "a conflict of interests which is solved in blood," and just as war emerges out of the conditions of peace so it also tends back towards peace again, its aim being to compel peace on the victor's own conditions. He regrets that naval matters before the formation of the German Empire had not their proper significance to the German people and were not rightly understood because the exploits of their own armies, which liberated the fatherland from the yoke of the foreigner, loomed larger in their eyes. Naval warfare, according to his view, has hitherto been waged on two different methods; in one case the sea is seized by [illegible] "thoroughfare of [illegible] and secondly, the sea is left open and descents are made on the enemy's sea-borne trade. Besides these two methods there are others which partake of the nature of both—viz., doing damage along the enemy's coasts and, if possible, invasions by land forces. Colonies and over-sea trade may also be made to suffer. This sums up what is apparently the writer's view of German strategy and German tactics (an insight of which is of national interest to us at present), and it is based on a pithy historical review of naval wars (chiefly British victories being quoted) from 1500 to the late Russo-Japanese war. In the events of 1805 prior to the battle of Trafalgar it is pointed out suggestively that the British blockade in front of the French harbours was aimed at keeping the different sections of the French fleet apart and that this object was achieved. Attention is also drawn to the fact that the "English with their practicality and strong dislike of theorising" held out in modern times longest against naval manœuvres in peace time, until it was realised how closely such manœuvres could be made to imitate real warfare, when "the rich resources and the practical sense of seamanship possessed by the English enabled them to redeem the time they had lost, and at the present moment England in this regard stands once again in the foremost place." Contrast is made between the *matériel* and *personnel* of the British and German fleets. "If a short time ago it could be said of England that the strength of her naval equipment consisted rather in the quantity and quality of her ships than in any systematic preparedness for war from the strategical and tactical standpoints, we [Germany], on the contrary, have always been better off in the matter of technical than of [illegible] the importance of the [illegible] of land forces useless [illegible] cut, Nelson's victory at Aboukir Bay is quoted, explaining that Napoleon's army in Egypt was cut off from Europe, and showing how a similar catastrophe would have befallen the Japanese army in Manchuria had Rozhdestvensky's fleet triumphed and defeated the Japanese navy. The weak points in the armour of Germany are hinted at, one being "blockade of German ports," for "not simply the coasts but the whole country would suffer ... . it would knock at the inland office of the merchant, it would hammer at the gates of the factories in the great industrial centres in the heart of the country, [illegible] working [illegible] are more [illegible] fear from [illegible] England's hands."

We may be considered to have given a book of no especial medical interest undue prominence when so much excellent medical literature calls for attention, but the subject is of the utmost importance to every Briton, for the safety of our island home depends on our navy. The book is well translated and most readable; and to the translator, Mr. J. O. Miller, a debt of gratitude is due for making it available.

LIBRARY TABLE.

The Care and Nursing of the Insane. By PERCY J. BAILY, M.B., C.M. Edin. London: The Scientific Press, Limited. 1908. Pp 270. Price 2*s.* 6*d.* net —This little book opens with a clear, succinct, and sufficient description of the anatomy and physiology of the human body. As a rule in this class of work anatomical details are over elaborated, but in the one before us we feel that the author has realised during his experience as lecturer that it is impossible to expect the average member of the average class to absorb more than the broadest anatomical facts. In the latter part of the book there are wholly admirable and minute directions as to the toilet of the sick, their feeding and treatment, and it is concluded with an excellent account of the most common symptoms, while most wisely no unnecessary attempt is made to enable the nurse to form his or her own diagnosis. We can with confidence recommend the book to nurses and to lecturers to nurses.

Golden Rules of Anæsthesia. By R J. PROBYN-WILLIAMS, M.D. Durh. Golden Rule Series, No. XIV. Bristol: John Wright and Sons. Third edition, revised. 1908 —The appearance of a third edition of this little book is proof enough of its suitability to the ends which it desires to meet. It contains in fact in condensed language and small compass most of the leading facts and principles which a student should incorporate into his knowledge before he regards himself as familiar with the subject of anæsthetics. Naturally, in a tiny work like this there are omissions, and we should have liked to see some mention of so important, if still debateable, a question as delayed chloroform poisoning. Moreover, the student who uses a work of this kind must of course realise that the writer takes for granted in his readers a full knowledge of the physiology of the subject. In the paragraphs dealing with chloroform there should, we think, be introduced some account of regulating inhalers, and in those discussing ether an account of the simplest and in some ways the best of all ways of giving ether, viz., by the open method, ought to be included.

JOURNALS AND MAGAZINES.

Proceedings of the Royal Society of Medicine. Vol. II., No 6. London: Longmans, Green, and Co.—The outstanding feature of this liberal number is the continued report of the discussion on ulcerative colitis on Feb. 10th, to which some 70 pages are devoted. They include a summary of statistics of the disease from the records of nine London hospitals and are a valuable contribution to its literature. The report includes remarks by Sir Patrick Manson, Dr. T. Claye Shaw, Dr. Sidney P. Phillips, Mr. W. G. Spencer, Dr. Norman Dalton, Mr. J P. Lockhart Mummery, Dr. Bertrand Dawson, Dr. J. P. Zum Busch, Dr. H D McCulloch, and Sir William H. Allchin. In the Surgical Section Dr. J. Kay Jamieson and Mr. J. F. Dobson publish a painstaking research into the lymphatics of the colon, approaching their subject from both the anatomical and pathological standpoints, and Mr. R. J. Godlee writes on the Torus Palatinus, a median bony ridge in the hard palate occurring in certain skulls. The report of the Anæsthetics Section is occupied with the latter part of the discussion on the proposed Anæsthetics Bill, which has received much attention in our columns. The Clinical, Dermatological, and Laryngological Sections report a series of cases too numerous to mention, amongst which notes upon elephantiasis treated by lymphangioplasty, by Mr. W. S. Handley, and upon a case of anæsthetic leprosy, by Dr. H. P. Hawkins, are of especial interest. The Neurological Section contains an account of the remarkable results obtained by the alcohol injection treatment of neuralgia and spasm contributed by Dr. Wilfred Harris. To the Obstetrical and Gynæcological Section Dr. Frederic J. McCann contributes a paper on Primary Sarcoma of the Fallopian Tubes, a rare form of tumour. In the Odontological Section is an instructive communication from Mr. K. W. Goadby on the general results of the special rules in force in match factories, in which he concludes that "a marked decrease has taken place in the amount of industrial phosphorus poisoning concomitantly with an improvement in the dental condition of the workers in the various factories." In the Otological Section Mr. Sydney R. Scott contributes a well-illustrated description of some sections of the human cochlea through the organ of Corti, showing a beaded nerve fibril traversing the tunnel of Corti, and cell fibrillæ projecting from the hair-cells. The Therapeutical and Pharmacological Section concludes the number, and under this heading the constant swinging of the medical pendulum is to be felt in Dr. E. I. Spriggs's paper on the treatment of gastric ulcer by immediate feeding, in which he compares the Lenhartz dietary to the treatment by saline and nutrient enemata followed by a graduated milk diet somewhat to the advantage of the former method.

Le Larynx, l'Oreille, et le Nez. Jan.-Feb., 1909. Paris: Maloine. Price 75 centimes.—This number contains an article of much technical value on direct laryngoscopy which will be read with interest by all who wish to get the views of other observers upon the latest method of dealing with diseased and other abnormal conditions of the upper air passages; beyond this there is nothing novel in this issue.

Reports and Analytical Records FROM THE LANCET LABORATORY.

PLASMON.

(INTERNATIONAL PLASMON, LIMITED, 66A, FARRINGDON-STREET, LONDON, E.C.)

WE reported upon plasmon in these columns nearly nine years ago, when we set before our readers the ordinary results of a chemical analysis. Our attention has recently been drawn to the fact that plasmon, since it is pure milk protein, contains phosphorus associated with the proteins—that is to say, in an organic form. It is well known that ash-free casein contains phosphorus as apparently part and parcel of its molecule, the quantity present being estimated as 0·85 per cent. Casein free from salts would not yield a phosphatic residue on ignition, but when associated with mineral salts there is little doubt that part of the organic phosphorus forms phosphates which are found in the ash on igniting the substance. The importance of phosphorus in organic association has lately been emphasised, and preparations like lecithin and the glycero-phosphates have been introduced into medicine as of value in neurasthenia and nervous disorders generally. There is reason for believing that organic phosphorus compounds of an allied nature exist in plasmon. According to our analysis the total phosphorus calculated as phosphoric acid in plasmon acting on it with nitric acid is 2·88 per cent., the amount found in the ash gives 2·24 per cent., while the amount extracted from plasmon by weak acid was 1·42 per cent. The organic phosphorus, therefore, lies between 2·88 and 1·42 per cent.—that is to say, to about 1·46 per cent., which is the amount found in terms of phosphoric acid in pure milk proteid. Milk proteid is, in fact, distinguished from other proteids by containing phosphorus, and it is satisfactory to observe that this element is not eliminated in plasmon.

COFFEE FREED FROM CAFFEINE.

(THE LIFEBELT COFFEE CO., 71, EASTCHEAP, LONDON, E.C.)

Caffeine is generally looked upon as one of the most important constituents of coffee, since, like alcohol, it is a stimulant, but differs from that substance inasmuch as its effects are exerted upon the central nervous system more than upon the heart. Thus coffee drinking is well known to remove sense of fatigue and in some cases produces sleeplessness. Coffee, therefore, has a definite physiological action, but in certain cases this action may be a harmful one. If it is proved that caffeine is responsible for the harmful effects of coffee the caffeine-freed article should be an introduction of some importance. We have carefully examined the sample submitted to us and found that while it preserved the fragrance and aroma of good coffee yet it contained only 0·16 per cent. of caffeine. Ordinary coffee contains, on an average, after roasting, about 1·0 per cent. of alkaloid, so that the above reduction amounts to about 84 per cent. of the total alkaloid. It is claimed that patients suffering from nervous affections or heart affections, who exhibit, in fact, an idiosyncrasy to ordinary coffee, not only take this coffee without harm but with benefit. The subject is an interesting one.

LACTIC TABLETS.

(ARTHUR H. COX AND CO., BRIGHTON.)

The statement that these tablets contain a culture of vigorous strains of the lactic acid bacillus was borne out in some experiments we made with them on milk. One tablet, after being crushed to powder, was placed in a little warm milk and the fixed acidity from time to time determined. After 24 hours the original acidity had doubled, and after 36 hours it had nearly trebled. The tablets are therefore useful for the anti-putrefactive treatment of the digestive intestinal tract.

DIGALEN.

THE HOFFMANN LA ROCHE CHEMICAL WORKS, LIMITED, 7 AND 8, IDOL-LANE, LONDON, E.C.)

This is a clear, colourless, sterile solution containing the active principle of digitalis folia. It is claimed that it has a certainty of action, admits of exact dosage, avoids gastric troubles, produces no cumulative effect, while its administration gains a prompt physiological response. These claims are supported by a number of excerpts from German medical literature published in a brochure issued by the above firm. The preparation is due to Professor Cloetta, who has succeeded, he states, in isolating from the leaves an amorphous digitoxin which is soluble in water. Each cubic centimetre of the solution corresponds to 0·3 milligramme of the amorphous digitoxin. The solution keeps well, being preserved with glycerin. It is further claimed that the hypodermic injection of digalen causes no irritation.

COGNAC BRANDY (FLOQUET FILS).

(FRANCIS GREEN AND CO., OCEAN HOUSE, 24 AND 25, GREAT TOWER-STREET, LONDON, E.C.)

We believe this brandy to be correctly described, both in regard to its origin and to its age. It presents the attractive characteristics of an old (21 years) liqueur Cognac brandy. As will be seen from the analysis it contains a relatively rich proportion of ethers. The analysis was as follows, the results being expressed in parts per 100,000 parts of alcohol present: volatile acidity, reckoned as acetic acid, 72; aldehydes, 40; furfural, 2; ethers, reckoned as ethyl acetate, 134; and higher alcohols, 136. These figures coincide very closely with those obtained with genuine old Cognac brandy. The alcohol amounted to 49·81 per cent. by volume, the extractives to 0·95 per cent., and the mineral matter to 0·02 per cent. This brandy has a smooth, refined flavour and is suitable for medical requirements.

BOTTLED FRUITS.

(THE BROUGHTON NURSERIES, WICKFORD, ESSEX.)

Three preparations were examined—namely, apples, blackberries, and tomatoes—and in no instance was any metallic contamination discovered nor were any objectionable preservatives found. The preparations are, in fact, sterilised and subsequently placed *in vacuo* in the bottle, which is provided with a lid forced on a rubber ring by atmospheric pressure. The fruits were in a quite sound condition and were satisfactory to the taste.

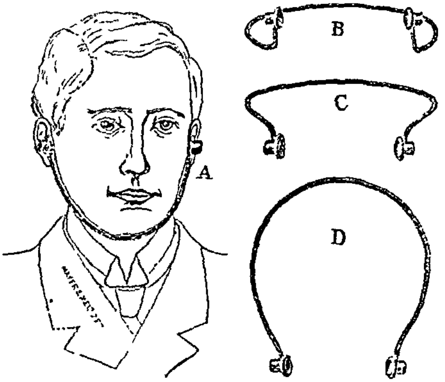
BURMESE AND CAROLINA RICE.

A correspondent in Rangoon recently asked us if we would submit to analysis a sample of Burmese rice, as prepared and eaten by the natives, with the view of deciding whether it showed a greater nutritious value than the Carolina rice usually sold by grocers in London. Our correspondent states that by the process which rice undergoes before it is sold in England it is deprived of part of its valuable constituents, the nitrogenous envelope, he adds, being polished off. According to the results of our analysis we can lend little support to this contention, for the following were the results:—Burmese rice: moisture, 15·70 per cent.; protein, 9·96 per cent.; starch, 74·04 per cent.; and mineral matter, 0·30 per cent. Carolina rice: moisture, 15·0 per cent.; protein, 10·14 per cent.; and starch, 74·86 per cent. The only appreciable difference between these results is that the Burmese sample contained a distinct quantity of mineral salts, while the Carolina sample yielded practically nothing on ignition. The starch and protein in both samples were practically identical in amount.

New Inventions.

A TRAGUS TRUSS OR EXTERNAL EAR PRESS.

THE external spring ear press or ear truss has been devised by me *to exclude or modify moderate noise sounds.* It possesses the great advantages that it does not disturb the ear, is clean to wear, and is easily put on and off. Great or bone convection sounds cannot be stopped by such a pressure instrument; indeed, for partly deaf people and using bone conduction or audiphone apparatus it would improve the effect through intercepting extraneous sounds. The spring ear press therefore should be used chiefly as an indoor instrument, and in conjunction with double or closed windows or any other quietening aids. The range of relief in this way from many disturbing sounds will be considerable. If used out of doors it will still account for at least the shutting off of distant noises, but not for all close noises. It will also be useful for producing sleep, especially when slight noises distract susceptible people and cause them to suffer in so exhausting a way. It sometimes stops the whirring noise of arterial high tension, in its turn partly a product of noise strain through afferent and tension results. Such noise becomes intolerable on laying the ear to the pillow or placing the head in any resting and dependent position. To wear the spring ear press the bow, which is rubber covered, fits under the chin in the case of the standard pattern A; behind the neck and below the ear in pattern B; or behind the head and above the ear in pattern C; and above the head in pattern D; the pads press on the tragus over each external meatus of the ears, and by pressure the spring and pads close the ear-conducting by-ways. The standard or chin shape, A, can be made in three ordinary sizes. The other three shapes, behind and above the head, may be preferred by some as being more easily worn or less noticeable; but these latter ones should be measured or fitted from e to ear.



The instruments have been made, according to my design by Messrs. Mayer and Meltzer, Great Portland-stree London, W.

H. ELLIOT-BLAKE, M.R.C.S. Eng.,
L.R.C.P. Lond., L.S.A.

Bognor.

APPARATUS FOR STRETCHING THE LIGAMENTS THE SHOULDER JOINTS.

THE accompanying illustration represents an apparatus f the use of golfers and cricketers in the gymnasium of t *Bournemouth Hydropathic for stretching the ligaments of t* shoulder joints. It may interest surgeons who are in sear of an apparatus that can certainly increase the range movements in these joints when they have been limited injury or disease. The apparatus consists *of*: 1. A whe four feet in diameter, fixed on a suitable stand which can made to revolve in a vertical plane. The movements m be produced by hand, pedal, or otherwise. To one spoke sliding clutch is attached with which is connected stirrup-shaped hand-piece. 2. A chair, consisting of a se capable of moving up and down by means of a vertic screw-support placed centrally. The back of the cha consists of a T-shaped structure, the vertical limb of whi fits into brackets attached to the seat, and can be raised lowered to suit the length of the back of the athlete usi the apparatus. A belt is fixed to the stem for encircling th *waist of the sitter.* To each end of the cross-piece a be is fixed for encircling the shoulders. The sitter, whe securely strapped to the chair, has the movements his spinal column limited to a minimum, and th shoulder-blades are practically immobile when the shoulde straps are securely fastened. The sitter, with his mesia plane parallel to that of the wheel and a little further tha an arm's length from it, grasps the stirrup-shaped handle which is at first attached *near the centre of the wheel.* O bringing the wheel into motion by the operator's hand or th pedal, the hand of the sitter is circumducted through a sma circle at first. The circle of circumduction is gradually increased by shifting the clutch towards the rim. The seat rotate on a platform, so that, without unfastening the sitter, hi other arm can be subjected to *similar exercise.*

The apparatus at work.

The Bournemouth Hydropathic Company will, we under [illegible] almost *net cost to any purely* [illegible] gathered by the above [illegible] many places, but we [illegible] use. Great mechanical [illegible] he various manœuvres, and we feel strongly that it should only be employed in cases where its need is certified by a medical man, and more, where the range of movements can be absolutely arranged by the surgeon and the results carefully watched. *Otherwise* the consequences might easily be very serious. It is especially important that it should not be employed in cases of stiffness of the shoulder resulting from tuberculosis, for in these the affection is often merely latent and such forced movements as might be [illegible] machine would almost certainly

THE LANCET.

LONDON: SATURDAY, APRIL 24, 1909.

Treatment of Tuberculosis at Sea.

WE have received from Dr. A. N. J. HANEDOES of Vaassen, Holland, an interesting and suggestive communication dealing with the subject of the treatment of tuberculosis at sea. The plan of sending patients suffering from pulmonary tuberculosis on a sea voyage is no new one and some years ago was adopted more frequently than it is at the present time. The reason for this is simple; theoretically the effect of sea air should be most favourable on sufferers from tuberculosis, but hitherto the conditions of life encountered on board ship have outweighed the benefits that might be obtained if the cabin accommodation, diet, and other arrangements could be especially adapted for invalids. Dr. HANEDOES rightly draws attention to the characteristics of ocean air. It is absolutely free from dust and bacteria. The ozone it contains is probably also of therapeutic value, although, as far as we are aware, accurate and detailed observations on this point are wanting. Further—a matter of particular importance to those afflicted with pulmonary tuberculosis—a warm, equable climate with a sufficient amount of humidity can be assured. The physiological effect of sea air is also seen in its sedative action on the nervous system, and the aseptic condition of the air acts beneficially both on the air passages and the system at large. The salt that is present in larger proportion than in inland air appears to render the expectoration less viscid without injuring the mucous lining of the air passages. Dr. HANEDOES also maintains that owing to its greater density the physiological effects of sea air may be compared to those obtained in a pneumatic cabinet: the respiration is slackened and rendered deeper. Full inspiration is certainly of benefit in pulmonary diseases, and he further states that the "unconscious and continually deepened respirations unfold and strengthen the lungs much more than is obtainable on shore by gymnastics and walking." In expressing this opinion, we believe that Dr. HANEDOES only states a portion of the truth. The deep respiration brought about by "gymnastics and walking" is only one of the beneficial effects produced by these measures. Probably the chief result of active exercise is to bring about auto-inoculation, by means of which the protective forces of the body are brought into action, and owing to the increase of the opsonins the phagocytic power of the white corpuscles is increased. To this matter, however, we shall again refer. Other influences of sea air mentioned by Dr. HANEDOES are the general tonic action which it exerts and the increase of appetite which generally follows. "A delicious feeling of corporal and mental animation," he says, is experienced, and the desire for more food is naturally of advantage to tuberculous subjects.

Such being undoubtedly the beneficial effects of sea air, what are the drawbacks to sending patients on sea voyages? The first that suggests itself is the want of suitable accommodation on the ordinary ocean-going vessels. Although in recent years the cabins on board the large steamers have been greatly improved, nevertheless, on an ordinary voyage, there must be occasions, sometimes considerably prolonged, during which patients will be confined to their cabins, such as the continuance of inclement weather. Further, on long voyages, great variations of temperature are experienced and the dietary is of necessity not always in accordance with the needs of invalids, although every care that is possible is usually taken in this respect in large steamers intended for passenger traffic. Finally, but not least, sea-sickness is a condition that must be seriously considered in advising a tuberculous invalid to take a long sea voyage. It is obvious, then, that such objections as the above may well make the physician hesitate before recommending a patient to adopt this therapeutic measure. Dr. HANEDOES, however, makes proposals which, although not being altogether novel, yet are an advance on other plans which have been hitherto suggested. He recommends the formation of a floating sanatorium in the shape of a large sailing vessel, provided with an auxiliary screw, which would be useful in entering or leaving harbours, or in the case of calms. The ship would be especially fitted for the accommodation of invalids. Such a plan has been made before, but Dr. HANEDOES'S special point is the nature of the cruise. He rightly insists that the ship would have to sail according to a fixed arrangement, whereby season, temperature, degree of moisture of the air, qualities of the harbours to be visited, and the calmness of the sea must be all taken into account. The duration of the voyage would have to be about three months, and he suggests as the most suitable district for the cruise the neighbourhood of Madeira in the course of the north-east trade winds. There the desired conditions would be most closely fulfilled. The sea is calm for months and the temperature equable. What could be more enjoyable, he asks, to those fond of the sea than a voyage to Lisbon, then a cruise in the vicinity of Madeira and the Canary Islands, with occasional visits ashore, and calls at Cadiz and perhaps Havre on the homeward voyage? No far-distant destination being in view, the land could be kept in sight for a considerable time, shelter might be easily sought should unfavourable weather ensue, and fresh provisions could be constantly provided. Weariness and the constant confinement on board ship inseparable from a long ocean voyage would be avoided, whilst the maximum therapeutical effects could be produced.

The important question next arises, for what class of patients would this treatment be most applicable? For certain cases of tuberculosis of joints, when active exercise can only be indulged in to a limited extent, we believe that a voyage of the nature suggested would prove most beneficial. For young subjects with tuberculous glands, when sufficient active exercise could be obtained in the limited space available on the deck of a ship with occasional runs ashore, such a course might also be well adopted. With pulmonary tuberculosis, however, and when the patient is able to take a good deal of exercise or to perform manual labour, the question is not so simple. The results of auto-inoculation produced by "graduated labour" are very encouraging, and on a ship "labour" of the required kind would be difficult to arrange and control. For individuals in the early stage of the disease, we think that treatment on land under suitable supervision is certainly preferable. The best results of active exercise and labour are, however, only obtainable in persons of fairly good physique. There are numerous patients, who, from various causes, do not respond well to graduated labour; auto-inoculation cannot always be satisfactorily regulated. In others bronchial catarrh is an impedient to modern sanatorium treatment. For such cases a voyage of the nature suggested by Dr. HANEDOES might well be tried, and we believe that he has performed good service by putting forward his scheme, which we should like to see brought to a practical issue, provided that all the requirements mentioned above can be procured.

The Great Importance of Small Things.

OUR excellent contemporary *Punch*—and in our opinion the philosopher of Fleet-street has never been better worth reading and marking than now—has lately and genially called us to account as alarmists, and we are allowed to guess that the reason is that we have endeavoured from time to time to give publicity to fragments of knowledge of various kinds, for most of which, as for truths of every other description, it is probable that some useful application may one day be found. We are quite accustomed to the accusation that it is our grim pleasure to make the public flesh creep, but we hope that our thoughtful readers credit us with a worthier motive than delight in popular scares. The history of science teems with illustrations showing that no truth is either insignificant or incapable of becoming a starting point for further advances, and in our own day the importance of the infinitely little is constantly forced more and more upon our attention. When the great discovery was first promulgated that intermittent and yellow fevers were communicated to man by mosquito bites, scores of sciolists, globe trotters, and others, communicated to newspapers their several varieties of ignorance "Common Sense," who did not know the difference between typhoid fever and "yellow jack," had lived in countries where there were no "mosquitoes" and where "fever" was abundant and deadly; while "An Old Traveller," who did not know the difference between an anopheles and a stegomyia or between either of them and a culex, had been where "mosquitoes" were abundant but where "fever" was unknown. A discovery calculated to save millions of lives was looked upon as a fitting subject for the indignant remonstrances of the ignorant, chiefly, as far as we can see, because a gnat is such a common little thing that to suggest it as the medium for the dissemination of an appalling amount of deaths and of physical misery and incompetence partakes of the nature of a medical scare. An employé of a railway and dock company by calling the attention of the sanitary authorities recently to the occurrence on premises under his eye of certain dead rats may have saved us from a little epidemic of plague—we say "little" because our preventive system is so good that tropical diseases never get any firm footing within our gates. If this work had been epitomised under a paragraph headed "Fleas and Pestilence" we can imagine "Paterfamilias" summing up the story in a letter to the press as foolishly alarmist.

In another column a correspondent deals in an amusing manner with the questions propounded through the pen of "Paterfamilias" by *Punch* to us, and shows that under some of them, at any rate, ridiculous as they are, serious medical issues might well be discussed. We should perhaps be thought to be dealing too seriously with the matter if we followed up the different points on the lines wittily suggested by "F.R.C.S.," but we wish it to be understood that our aim is to call attention to real dangers which the ignorant or the frivolous are apt to overlook, and which in many cases merit more consideration than they commonly receive. The questions in *Punch* were, for example, suggested by a paragraph in THE LANCET on the poisonous nature of honeysuckle, and all who know the propensity of children to pluck and eat berries of tempting appearance, and the many instances of serious or fatal poisoning to which this propensity has led, will feel it to be desirable that publicity should be given to the fact that a plant with a name suggestive of sweetness may become a source of real danger. We wish it to be understood that we are by no means dealers in popular scares, and that the dangers to which we from time to time direct the attention of our readers are real ones. They may sometimes be small, and if so we do not attempt to exaggerate them. Knowledge of the channels through which disease finds access to the human body is daily increasing in the medical profession, and conditions which a few years ago would have been thought of only as annoying (bugs in hired lodgings, for example) are now properly regarded as possible sources of serious danger. Of the cases of indisposition to which a busy family practitioner is daily called, there are too few in which he can determine, with any approach to scientific certainty, the immediate cause of the ailment for which he is asked to provide a cure, and this because the patient and his family cannot tell him a succinct story. It is true that the patient will usually have no doubt upon the point, and will say at once how and when he "took cold," or what it was that "disagreed with him." His beliefs on the subject, as every medical man knows, are usually mere delusions, which it is useless to spend time in combating. We are coming more and more to regard a high standard of public health as a matter of national concern, and to realise that upon its maintenance may seriously depend the fitness of the coming generation to "speak with the enemy in the gate." In these circumstances it does not become us to neglect dangers because they may appear to be trivial, and while we recognise that the reproof of *Punch* was as kindly as possible, we must continue with dull seriousness to protest that we write in earnest and not with irresponsible gaiety.

The Resuscitation of the Apparently Drowned.

The Hunterian lectures delivered every year at the Royal College of Surgeons of England are always of great value, for they represent the latest opinion on matters of current surgical importance. Of the many recent Hunterian lectures we do not remember any of more interest than those delivered during the past month by Professor Arthur Keith on the mechanism underlying the various methods of artificial respiration.[1] From time immemorial various artifices have been employed to resuscitate those who have been immersed in water for a short period and have been apparently drowned. In superstitious ages the natural spontaneous wish to revive a drowned man was restrained by the tradition that a man rescued from drowning was destined to bring ill-luck to his rescuer, and though this superstition survives, we believe, in some parts of the country it has little influence in preventing the onlookers of a drowning accident from doing their utmost to revive the unfortunate victim. Zeal, however, generally outruns knowledge, and the dim recollections of methods of resuscitation are employed with much misdirected energy and probably with harmful results.

Dr. Keith took as his starting point the year 1774, when the Royal Humane Society was founded by Dr. William Hawes, and he reviewed all the devices for reviving the apparently drowned which have been in use or recommended from that day to this. It is a disquieting fact to learn that practically all the methods advised by the society in its early years have been discarded and condemned since; for the thought cannot fail to arise that our most cherished modern methods may in their turn be rejected by those that come after us. Stimulants to the nose and skin, bleeding, emetics, and the fumigation of the large intestine with tobacco smoke, all these were looked upon as valuable methods of reviving the drowned, but now they are unknown. Warmth and friction of the skin still survive and are of definite value, and especially useful is warmth. The only method of artificial respiration that was then known was direct inflation from the operator's mouth, and though this was discarded later by the society many recoveries were ascribed to its use, and it is probably by no means useless. As these lectures were given under the ægis of John Hunter it is interesting to note that at Dr. Hawes's request John Hunter supplied suggestions for the restoration of the apparently drowned, wherein he gave the first place to artificial respiration carried out by means of a double chambered bellows which he invented for the purpose, one chamber being used for filling and the other for emptying the lungs. He proved the efficacy of the bellows on dogs, and at the same time he suggested that oxygen, which had been discovered by Priestly only two years before, might be more potent than air. Dr. Keith did not have time to consider fully the whole question of the resuscitation of the drowned, so he dealt mainly with the question of the consideration of the best method of introducing air into the lungs. In cases of drowning it is now acknowledged that water does enter the lungs, though until quite recently this fact was denied. In one case a dog in drowning received into its lungs more than 700 cubic centimetres of water; and one part of the problem of resuscitation is the removal of this water from the lungs. Some of it is absorbed from the lungs, for if an animal is drowned in water stained with a pigment the colouring matter can be traced into the pulmonary lymphatics. The disturbance of the circulation is as important as the disturbance of the respiration; when it begins to fail, the right heart is distended and the abdominal viscera are engorged with blood.

The methods which have been invented for artificial respiration may be divided into those which endeavour to draw air into the lungs, allowing the elasticity of the chest wall to produce expiration; secondly, those which try to drive out the air in the chest, trusting to elasticity for the re-introduction of fresh inspiratory air; and thirdly, those methods in which both inspiration and expiration are produced mechanically. At the present time only four methods are really in use. Marshall Hall's method is little employed at present, for in this country it has been almost entirely replaced by Silvester's method, and it may safely be said that the procedure advised by Silvester is the most widely employed at the present time. Howard's method is more used in the United States than in this country, but it is doubtful if it has any advantages over Silvester's. The latest procedure is Schäfer's and it is the method recommended by the committee of the Royal Society of Medicine appointed to considered the whole question of the best mode of resuscitating the apparently drowned. The committee was appointed at the request of the chief surgeon to the Metropolitan Police, the officers of which have for many years employed Silvester's method. Many experiments were performed and estimations were made as to the amount of exchange of air effected by the various methods. The report points out that the means used for the resuscitation of the apparently drowned must be adapted to the circumstances under which drowning usually occurs. They must be simple and capable of being carried out by a single person. The committee considered that the method devised by Professor Schäfer fulfils these conditions better than the others. Further, the prone position favours the escape of water and mucus through the mouth and nose; a larger amount of air can be made to pass in and out of the chest than by any other; the upward pressure on the diaphragm stimulates the heart and there is less risk to the abdominal organs. The Schäfer method was described fully by Dr. Keith in his third lecture and is not very widely known. The patient lies in the prone position with the face turned sideways, and the operator exerts firm pressure on the lower ribs and loins; this produces expiration and the removal of the pressure allows inspiration to occur. If this be done some 12 times a minute a very effective exchange of air occurs. The question naturally arises, Shall Schäfer's method replace those previously in use? Dr. Keith's answer is that when intelligently and skilfully performed Silvester's method is preferable to Schäfer's, but that Schäfer's method is simpler and therefore it is more easily carried out by the unskilled, though it is less effective. Most of Schäfer's experiments were performed on living beings, and as the elasticity and tone of the tissues in the living are not identical with those of the drowned the conclusions based on these experiments are not so trustworthy as if they had been derived from experiments on dead bodies. What is needed is a careful record of the methods employed in all cases, both successful and unsuccessful; if records such as these were available conclusions of definite value could be formed. In 1776, when JOHN HUNTER was asked by HAWES for suggestions as to the resuscitation of the drowned, as we have already mentioned, he laid stress on the need for the accurate record of the means used and the degree of success attending them, but the recommendation has not been followed to any large extent, for in most cases the accounts are of the most meagre description Dr. KEITH thinks that artificial respiration, however carefully performed, is not likely to be successful in more than one in 20 or 30 of the cases, but as it cannot be said beforehand which is the exceptional case artificial respiration should be performed with the utmost care in all. Appeals to the statistics at present available are vain. Successful cases are much more likely to be put on record than are those in which failure has occurred, but if we may judge by statistics every method has shown a large amount of success

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[1] The Lancet, March 13th, 20th, and 27th, 1909.

We cannot look upon the results of artificial respiration at the present time as satisfactory. Many cases do, indeed, recover, but it is probable that many die who might have survived had suitable treatment been adopted. We do not deny the great progress that has been made in the resuscitation of the asphyxiated and we recognise the enormous amount of care which has been expended in these researches, but we feel that there is much more to be done. It is possible that the impulsion and extraction of air by means of a machine, provided that care is taken to see that it is not used to excess, may yet replace other methods when the mechanism is at hand, for a machine is tireless and thorough, and less room is left for want of knowledge. Dr. KEITH is to be congratulated on having chosen for his Hunterian lectures a subject of such interest and importance.

Annotations.

"Ne quid nimis."

A "TUBERCULOSIS EXHIBITION."

UNDER the auspices of the National Association for the Prevention of Consumption and other Forms of Tuberculosis a "Tuberculosis Exhibition" is to be opened in the East-end of London at the Art Gallery, High-street, Whitechapel, on June 2nd, 1909, by the President of the Local Government Board. It is intended that this exhibition shall visit subsequently other poor districts of London in turn and afterwards make an extended tour of the provincial cities and towns. The whole of the movement is, we understand, to be purely philanthropic and educational, and free from commercial enterprise and advertisement of any sort; further, there will be no charge for admission. An influential organising committee has been formed, the composition of which assures that the exhibition is in good hands. The chairman is Mr. George Harwood, M.P., and amongst the medical members are Professor G. Sims Woodhead, Dr. C. Theodore Williams, and Dr. Arthur Newsholme. Dr. H. Hammond Smith is the organising secretary. Whilst not entirely neglecting the scientific aspect of the subject, the exhibition will be chiefly of a popular and educational character, and will seek, by the help of diagrams, models, actual specimens, and other means, to bring home to the people the nature of tuberculosis, the extent of its ravages, and the possibility of its prevention and arrest, as well as the methods to be employed to effect these purposes. Roughly speaking, there will be seven sections, showing (1) the extent of tuberculosis by means of diagrams and statistical tables; (2) the causation of tuberculosis; (3) "where tuberculosis lurks," with photographs and models of overcrowded and unhealthy dwellings; (4) how tuberculosis is spread, indicating the modes of infection by expectoration and milk; (5) how tuberculosis may be prevented; (6) how tuberculosis is arrested; and (7) a special section devoted to tuberculosis in children. We wish the exhibition every success. We have frequently insisted that the most powerful factor in the fight against tuberculosis is education of patients and their friends. It is important, however, to take advantage of every opportunity to instruct the public generally as to the simple means which may be adopted to live as healthy a life as possible under varying circumstances. In the crowded parts of large cities hygienic surroundings are at their worst, and it is therefore suitable that this exhibition should be held in the East-end of London and in other large centres. By means of lectures and demonstrations doubtless much can be done to teach the inhabitants the precautions which should be taken to insure thorough ventilation of the living rooms and the means which should be adopted for the disposal and destruction of the sputum. At the same time care should be taken not to induce too great a scare in respect to the infectivity of tuberculosis, otherwise the unfortunate sufferers from the disease may be treated as the lepers of old and unjustifiable hardships inflicted on individuals. Medical ideas on this point have lately undergone revision.

WILL ARTIFICIAL SYNTHESIS EVER SUPPLY THE WORLD WITH FOOD?

THE advance in the price of bread last week, due to financial operations which no one can approve, revives in the minds of chemists the possibilities of synthesis when applied to food production. It must be admitted that triumphant as are the very numerous synthetic processes which have been devised by chemists, yet very few of these relate to the building up of food materials from their elements. It is true the sugars have been so fashioned, but how long, laborious, and expensive does the process prove! The most vital constituent of food, the nitrogenous portion, or protein, is a building yet uncompleted by man's effort, although excellent foundations have been laid by the masterly work of Fischer. The simple adjustment of materials in the plant which furnish the important starchy foods is understood to some extent, but no man has been able to imitate it successfully, albeit carbon, hydrogen, and oxygen surround him on every hand. Bricks there are everywhere, but he cannot group them. Yet another important factor in diet is fat, but no chemist has dreamed of a mill which will serve out fat on an intake of grass. The fact is, chemistry succeeds better in the work of destruction than in the work of construction, and analysis must necessarily precede synthesis, so that composition and constitution must first be learned. The forces which determine this composition and constitution are the crux of the whole question, and this is where man is beaten. His food so far can only be produced through the natural synthetic mediums, the plant and the animal; agriculture is a practicable matter, but the artificial synthetic factory is not. Will it ever be? There are not a few eminent scientific men who predict with confidence that the world's supply of food (it may be at a distant day) will be produced abundantly and constantly by humanly devised processes which will place questions of quantity on more certain bases than agriculture can promise to do. It is difficult not to be sceptical about such a contemplated consummation of man's ingenuity, and certainly much of the joy and romance of the world would be taken out of it if the rearing of plants and animals ceased to be a necessity of its existence. Still, the triumph which would imply that albumin, starch, sugar, and fat could be fashioned out of the mineral elements, carbon, hydrogen, nitrogen, oxygen, sulphur, and phosphorus is not beyond the bounds of imagination, only we must not wait for it to put an end to the "cornering" of the people's food.

DOUBLE HÆMOTHORAX IN MENINGOCOCCIC MENINGITIS.

DOUBLE hæmothorax is a very rare condition. At a meeting of the Société Médicale des Hôpitaux of Paris M. E. Apert reported a case, apparently unique, in which it occurred as a complication of meningococcic meningitis. A boy, aged three and a half years, was taken to hospital on Jan. 28th last in a state of collapse. The face was livid, the lips were pale, and the respirations were feeble and slow. He had been in good health until the previous day, when he awoke feverish; in the evening he vomited and cried. On admission pallor, coldness of the surface, feebleness of pulse and respiration, and general weakness were the dominant symptoms. The child lay prostrate and motionless on the bed and groaned. The abdomen was not retracted, there was no rigidity of the neck, and Kernig's sign was absent. The sounds of the heart could scarcely be heard and the respiratory murmur was very feeble. The child was covered with flea-bites, but there were also two purpuric spots of the size of a lentil on the lower limbs. The temperature was 99·3° F. In the evening the temperature rose to 101·1° and at 3 A.M. the child died. At the necropsy, on opening the thorax, the lungs had a greyish tint instead of the rosy colour which they show at this age. They appeared to be void of air and blood and were in a state of atelectasis, like the lung of a fœtus. On raising the lungs this condition was explained: each pleural cavity contained a gelatinous mass of clotted blood which occupied the whole of the costo-vertebral gutter and extended as high as the axillary line, pushing the lungs forward. In aspect and consistence the mass resembled quince jelly; in the upper part it was transparent and of a yellowish or slightly rosy tint, in the lower part it was thicker and brown. Evidently blood to the extent of more than a litre had been extravasated into each pleura. The peculiar appearance of the clot was due to slow coagulation, which allowed the red corpuscles to collect at the lower part. Slow coagulation is the rule in effusion of blood into the pleural cavity. But what was the cause of this effusion? The lungs and the pleuræ were quite sound. But the cellular tissue of the costo-vertebral gutter was œdematous and the intercostal and azygos veins were thrombosed and distended by black non-adherent clot. All the thoracic and abdominal organs were normal. On the convexity of the brain, in the fissures, and in the course of the vessels there were a dozen purulent subarachnoid tracts, the beginning of suppurative meningitis. There were no lesions at the base of the brain. Films of the pus showed in small numbers diplococci, mostly intracellular, which did not retain Gram's stain. The symptoms were thus due to the internal hæmorrhage. The child died before symptoms of meningitis had time to develop. The fact that the meningitis remained localised to some of the fissures on the convexity of the brain explained the absence of rigidity of the neck and Kernig's sign. The existence of hæmorrhagic forms of purulent meningitis is well recognised, but in the cases described the hæmorrhage has taken the form of purpura; sometimes hæmorrhage from mucous membranes has occurred, but never hæmothorax. Further, double hæmothorax is in itself a rarity. M. Apert has been able to find on record only two cases. Zahn of Geneva described one which resembles the case now reported in the fact that the vena azygos was thrombosed. M. Apert was unable to explain the connexion between the meningitis and the hæmothorax, and on reading this careful clinical account the difficulty will be recognised.

THE RETIREMENT OF DR. JOHN TATHAM.

WE learn that Dr. John Tatham, who has for many years been Superintendent of Statistics at the General Register Office, will shortly be retired under the age clause from his important post. Dr. Tatham has earned the gratitude of the medical profession generally, and in particular of those officially responsible for the public health of the country, by his admirable Supplementary Reports on the Mortality of England and Wales. His great statistical powers have ever been placed readily at the service of the medical profession where puzzling situations have arisen, and his exposition of medical statistics in the first volume of Allbutt's "System of Medicine" (second edition) is an introduction to a difficult subject which has been found of the highest value by many practitioners. We are informed that Dr. Thomas Henry Craig Stevenson, who has been assistant medical officer of the Education Branch of the Public Health Department of the London County Council, will succeed Dr. Tatham as Superintendent of Statistics. Dr. Stevenson is the joint author with Dr. A. Newsholme, the principal medical officer of the Local Government Board, of the "Graphic Method of Constructing a Life Table" and of other statistical papers. He was formerly assistant medical officer of health of Brighton, and he brings considerable experience to his new and important post.

THE LODGING ARRANGEMENTS FOR THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THE central booking office of the Royal Hungarian State Railways has issued a circular letter, dated April 15th, to explain the arrangements made for lodging members of the forthcoming International Congress of Medicine to be held at Budapest between August 29th and Sept. 4th. The office states that it has been intrusted with the arrangements for accommodating visitors to the Congress for its whole duration, and intends to make these arrangements in advance by issuing "accommodation orders." Such accommodation orders will be for seven days in hotels and eight days in private dwelling-houses, on the understanding that the day of arrival at hotels is to be taken as August 28th, but at private dwelling-houses August 27th. Should the arrival at Budapest take place after these respective days or the departure from Budapest before Sept. 4th, no reimbursement will be made for the time the lodgings are unused. The following tariff of lodgings is given:—In hotels (arrival on August 28th and departure on Sept. 4th): rent for a stay of seven days, prices in kronen (which may be read as shillings): Series A: single bed, K. 70–140; double bed, K. 84–210; three beds, K. 105–245. Series B: single bed, K. 48–69; double bed, K. 64–83; three beds, K. 80–100. Series C: single bed, K. 48–69; double bed, K. 35–63; three beds, K. 42–79. In private dwelling-houses (arrival August 27th, and departure on Sept. 4th): rent for a stay of eight days, prices in kronen: Series D: single bed, K. 51–70; double bed, K. 76-100; three beds, K. 91-115. Series E: single bed, K. 31-50; double bed, K. 46-75; three beds, K. 61-90. Series F: single bed, K. 16-30; double bed, K. 30-45; three beds, K. 44-60. Such apartments may be engaged by the person who requires lodgings stating in which series and at what price he desires a room with one, two, or three beds and whether it is to be in an hotel or in a private house. He will be free to choose the price which he is prepared to pay according to the scale set out above, and this price must be sent to the central booking office in advance. In return for this remittance an "accommodation order" for an appropriate lodging will be sent to the applicant. The committee of the Congress has arranged that a commission of K. 8.50 per person shall be paid to the booking office in return for its trouble and expenses. This commission is to be sent at the same time as the rent and the receipt of it will be acknowledged separately. If a person thus taking a room should be prevented from attending the Congress and notify the fact before August 20th, the rent paid in advance will be refunded upon production of the accommodation order with a deduction of 10 kronen a head, but should such notice reach the central booking office after that date 20 kronen will be deducted for each person. We would add for our readers' benefit that members who desire to avail themselves of the proposals contained in this communication should consider them carefully and keep every document in connexion with their bargain, as failure to produce written evidence of similar contracts proved a fruitful source of trouble at the Madrid meeting of the International Medical Congress.

INFLAMMATION OF BURSÆ AND "RHEUMATISM."

IN spite of recent progress in diagnostic accuracy the term "rheumatism" is still used vaguely and is applied to many different conditions, often to any articular affection the nature of which is unknown. Bacteriology has done something to diminish the evil by separating from this miscellaneous group gonorrhœal and pneumococcic arthritis and acute rheumatism, but much still remains to be done. In the *Boston Medical and Surgical Journal* of April 1st, Dr. E. A. Codman has called attention to the fact that many obscure cases of pain about joints termed "rheumatism" are due to inflammation of bursæ or of the areolar tissue between the different planes of muscles. In the human body those tissues which move on one another and bear weight—namely, joints—have their points of friction defended by articular cartilage, but where there is much movement but no weight is borne a simple synovial membrane is interposed for the purpose of diminishing friction. Tissues which move on one another only to a [illegible] layer of areolar [illegible] and bursa. The cracking and snapping about joints which occurs in some persons is usually produced in bursæ. The very existence of most of the bursæ is often forgotten, and therefore an altered condition in them is not entertained in diagnosis, but no matter how small they are subject to inflammation. Normally their walls are very thin, but when inflamed they may become much thickened. Dr. Codman has recently called attention to the frequency and importance of inflammation of the subacromial bursa. Inflammation of bursæ may be due to injury, infection, toxic waste products in the circulation, and over-use. Dr. Codman thinks that the stiffness which occurs after unusual exercise is due to mild temporary inflammation of bursæ, tendon sheaths, and areolar tissue. The wonderful self-oiling mechanism of the body is thrown temporarily out of order. The bursæ become thickened with congestion and acute œdema, and their secretion becomes too viscid and fibrinous to allow easy motion. The areolar tissue being in a sense a compound bursa may also become inflamed. This Dr. Codman regards as the pathology of lumbago and "stiff neck." The function of the serous membranes—pleuræ, pericardium, and peritoneum—is the same as that of the bursæ, the diminution of the friction of parts which move on one another. Their inflammations may consequently be regarded as analogues of bursitis. This opens up an interesting field for comparisons when affections of bursæ have been more fully investigated; at present we have not much material for broad deductions.

THE EFFECTS OF WIRELESS TELEGRAPHY ON OPERATORS.

IT has been remarked that each step taken in the onward march of any applied science seems to bring into notice some fresh special pathological condition. Various previously unknown diseases dogged the steps of the earlier engineers, electricians, chemists, and balloonists. The dangers lurking in the Crookes tube—beneficent though it be when used under proper control—have been of late made tragically prominent. Amongst the numerous persons who are now learning to fly possibly some new pathological curiosity will before long come to be recognised. According to M. P. Bellile, a French naval surgeon on board the *Descartes*, which has been engaged in the campaign in Morocco, the members of the ship's company who were employed in wireless telegraph duty developed various affections in consequence of the action of the Herzian waves. Most commonly the telegraphists complained of their eyes, a slight conjunctivitis similar to that occurring amongst those who work with arc lamps being found. Although this of itself was not generally at all serious, yet in one case where the attacks recurred again and again, keratitis was produced which resulted in a leukoma of the right cornea and consequent impairment of vision. In order to protect the eyes from damage by the ultra-violet rays of the electric emanation, which have a very powerful action, it was recommended that yellow or orange glasses should be worn. Not only were the eyes of the operators affected, but two cases of eczema—one of the wrist and one of the eyelid, both very difficult to cure—were seen, probably due to the same cause. Lastly, one of the officials who had been employed for several years in wireless telegraphy suffered from painful palpitation of the heart which came on after working for any length of time at the instruments for sending messages. This man was quite free from any organic lesion of the heart. M. Bellile is disposed to think that a good many of the cases of "nervousness" and neurasthenia which seem now to be getting rather common among naval men may be due to the work which is being done in wireless telegraphy.

CONGENITAL NEPHRITIS.

THE kidneys of young children appear to be very susceptible to irritation from causes which have little or no influence in adult life. Thus, in addition to the ordinary causes of nephritis, such as passive congestion, ingested irritants, and the infections, such conditions as acute indigestion, inflammatory conditions of the alimentary tract, cold plunges, exposure to high degrees of heat, calcareous and hæmosiderin deposits in the tubules, interstitial hæmorrhages, and even icterus, may all be concerned in the production of nephritis in early life. Other causes are uric acid infarcts and parental syphilis, both of which may produce changes in the kidneys before birth. In the latter case the nephritis is usually of interstitial type, but parenchymatous changes occur in some cases. Dr. Howard T. Karsner contributes an interesting study of these conditions to the February number of the *Proceedings of the Pathological Society of*

Philadelphia and records a case of acute parenchymatous nephritis in a newly born infant. The infant was born of a healthy Irish woman and showed no sign of syphilis. The mother also presented no evidence of that disease, but no information was obtainable as to the father. Labour was normal and the infant showed no abnormality except cyanosis which persisted even after respiration had been established. Shortly after cutting the cord the child became more deeply cyanotic and death occurred about 45 minutes after birth, in spite of an attempt to inject strychnine directly into the heart. The mother made an uninterrupted recovery. Her urine was of normal character. At the necropsy on the infant both kidneys showed congestion of the cortex and injection of the pyramids, the lungs were found to be congested, the liver was in a state of cloudy swelling, and the foramen ovale in the heart was patulous. Histologically there were found interlobular fibrosis in the pancreas, mucoid degeneration of the gastric mucosa, and slight lymphoid infiltration of the small intestine. The kidneys showed changes characteristic of acute parenchymatous nephritis. No definite cause to account for the nephritis could be found. No indication of syphilis was apparent in the infant, and Dr. Karsner is therefore disposed to relegate his case to the type referred to by Holt as primary nephritis. After a careful search of the literature he finds but few references to similar cases, although Descroizilles, Cotton, Baginsky, and Henoch all mention the occurrence of nephritis at or shortly after birth, while Ashby and Wright affirm that infants may be born with acute nephritis and Ashby has recorded such a case. Dr. Karsner gives references to the literature of the subject and his paper forms an interesting addition to our knowledge of congenital nephritis.

FLOCK AS A POSSIBLE DISTRIBUTOR OF VERMIN.

OUR readers will remember that in THE LANCET of Jan. 23rd we gave an account of the process of manufacturing flock, both dirty and clean, as investigated by our Special Commissioner. The details of the former were disgusting in the extreme, but one department at least of the Government is alive to the dangers to public health which exist therefrom. An inquiry was set on foot by the Local Government Board in 1908 conducted by Dr. Reginald A. Farrar, whose report is to be published later. Part of the inquiry centred in the question of the limits of vitality of the vermin with which the materials used in manufacturing inferior flock bedding are sometimes infested, and this investigation was undertaken by Mr. Cecil Warburton, F.Z.S. The parasite selected was the body louse, *Pediculus vestimenti*, and after various experiments as to the best way of keeping the lice alive in incubators and feeding them on rats, which all failed, Mr. Warburton, with the heroism that marks the true scientific investigator, determined to make himself the *corpus vile*. He states: "Examples of Pediculus vestimenti were imprisoned, together with a small piece of cloth, in a glass tube about three inches by five inches, plugged with cotton-wool. The glass tube was inclosed in a metal case open at one end, to guard against possible accidents. The whole was kept close to the person, night and day, except when feeding was necessary, which was at least twice in the 24 hours. The tube was then opened and the small piece of cloth, with the lice adhering to it, allowed to fall upon the back of the hand." Here they fed. Lice were bred in this manner and their life-history was thus ascertained. The eggs were reared under the same conditions as the mother had been kept and finally the life-history could be detailed as follows. Incubation period, eight days to five weeks; period from larva to imago, 11 days; non-functional mature condition, four days; adult life, male, three weeks; female, four weeks. With regard to the possibility of flock acting as a transmitter of vermin experiments showed that lice would pass safely through the "devil," for stuffs known to be verminous were put through that ominously named machine, and in the sacks in which the flock was packed dead lice were found which had crept out of the flock after it was packed. They had therefore evidently not been killed by the tearing process. The conclusion of the whole matter was that lice, and *a fortiori* their eggs, may pass through the flock-making machine without being crushed. The lice themselves would most probably not be alive when the flock was converted into bedding, but as the eggs take a month or more to hatch it is quite possible that living eggs might be present in bedding. We await Dr. Farrar's report with interest, and it is earnestly to be hoped that the Local Government Board will take immediate and energetic action to stop the sale of filthy flock. An increase in price of about 2*s.* per bed would, as our Commissioner showed in his report referred to above, pay the manufacturer for purifying his flock before making it into bedding.

THE SPRINGTIME HOLIDAY.

THE sunshine of the late Easter week and the present weather indications point to the fact that those who are taking their annual holiday, or some portion of it, at this early period of the year have been well justified of their action. There is little doubt that the early autumn will remain the favourite season for the migration of townsmen to the seashore, the hills, or the moorlands, for the slackening of every kind of business in August and September has by now become so fixed a feature of the commercial and professional year that we can scarcely expect the date of the holidays to be moved forward by an earlier general exodus to the country. It is probable, too, that the majority of city dwellers prefer to leave their offices and streets at the time when we are accustomed to feel in England the hottest days and sultriest nights of the year. But the man who can arrange to leave his work in late April and early May either for his favourite golf-links or trout stream, or simply to wander on foot or cycle through the highways and flowering byways of the countryside he loves best, now that "Earth, unto her leaflet tips, tingles with the spring," provided only that he is blessed with rainless skies, will carry back to his work a sense of refreshment that the full-blown splendours of the countryside in early autumn can hardly afford him. And even if his mind be of such a cast that it neither regards the promise of the sweet of the year with special gladness nor feels any tinge of regret in the ripeness of harvest-time, if, in a word, all he asks of his holiday be a good table and a soft bed and fine days in the open air, he will still find that such things may be attained with more readiness and at a smaller cost in Maytime than in August, and he will, moreover, take his pleasure without encountering those congregations of his fellow-townsmen which everywhere invade the enjoyment of the autumn holiday. To those medical men whose work lies in towns the spring holiday may well bring a particular recreation of mind and body. The mere fact of getting away from the frets and ills of his fellow men, with whom in his professional life he comes into such constant and intimate contact, is of itself a refreshment, and, as we have said, this solitude is more easily attainable in the spring than in the autumn. We know that many medical men are only justified in leaving their practice at the time when many of their patients are away from home, but if the money can be sacrificed the return in health of the spring holiday—though only for few days—will be found very great. We acknowledge that most who are fathers of families, whether edical men or laymen, will feel themselves bound to e autumn holiday by the dates of their children's hool holidays, but, however unpopular be the suggestion, we venture to remark that in certain instances nd when funds permit a separate holiday for the readwinner may afford him a rest unattainable in the mpany of his family. In any case there are a large umber of childless practitioners to profit by our advocacy f the springtime holiday, which must, however, be read as onditional upon a reasonable attitude on the part of the eather, for a wet May will not only be as annoying as a et August but in all probability will be a good deal colder. ut we must close this recommendation of the spring holiday y admitting that the counsel to take it is a counsel of perection, for we know that medical men in full swing can ake only too often no holidays at all.

EDICAL MISSIONS AND THE SOCIETY FOR THE PROPAGATION OF THE GOSPEL.

THE 208th anniversary of this society will be held from pril 24th to 30th, and on April 28th at 8 P.M. a meetg will be held at the Church House in connexion with e Medical Missions Department. The speakers will inlude Sir Dyce Duckworth, Dr. F. H. Champneys, and Miss ane Walker, M.D. The connexion between the priest and e medical man is, of course, a very ancient one, and medical issions are one of the most valuable portions of mission ork, for the healing of the sick leads in very many cases those who are healed and their friends listening to e new message. The society appeals for fully qualified edical men and women, but, of course, the fulfilment of is idea will cost money. Not only does it involve the eep at least of the medical missionaries, but money is also eeded for hospitals and dispensary buildings and the supply f instruments, drugs, dressings, and the like. There is now movement both in medical and religious circles as to a loser union between the work of the physician and that of e priest, and the work of medical missionaries is one of the est ways of showing that these two offices may be combined one person without the functions of the one in any way fringing the responsibilities of the other.

A MODIFICATION OF THE CUTANEOUS TUBERCULIN REACTION.

THE cutaneous tuberculin reaction for the diagnosis of uberculosis was first introduced by von Pirquet and the echnique recommended by him was as follows. The skin, referably of the arm, where the test was to be made was horoughly cleansed and a drop of a 25 per cent. solution of Koch's old tuberculin was placed on the arm; the skin was hen scratched through the drop by means of a vaccinating ancet or Pirquet's raspatory. For purposes of control other cratches were made without the tuberculin having been pplied. Von Pirquet subsequently thought it better to use ifferent concentrations of the solution. After about one and half hours a very slight redness appeared at the spot of noculation and also at the spot of the control scratch. This as regarded as due to the slight traumatic irritation aused by the actual performance of the inoculation. This edness disappeared after an hour or two, and if a positive esult followed on the site of the inoculation of tuberulin, in about three hours a reddening of the skin ppeared, which increased until it reached a maximum; this sually took from 12 to 24 hours. In the *Répertoire de harmacie* for February a description is given of Lautier's odification of the above process. A pledget of cottonool of the size of a pea is moistened with three drops of a olution of tuberculin and applied to the unbroken skin on the outer surface of the arm. The application is covered with gutta-percha tissue and a pad of cotton-wool, kept in position with a bandage. It is important that the skin should be intact and cleansed with alcohol and ether just before the dressing is applied. Within 24 hours, if the reaction is positive, the patient will complain of irritation which increases during the ensuing 24 hours. The dressing is then removed, and, in the case of a positive reaction, redness and sometimes papules will be observed. The reaction may manifest itself within half an hour and varies in intensity as regards redness, swelling, dryness to the touch, and tenderness produced by pressure. The results of this method were controlled by the ophthalmic reaction.

THE NURSING AND MIDWIFERY CONFERENCE.

DURING last week a Nursing and Midwifery Conference and Exhibition was held in the Grafton Galleries, Bond-street, London, W. It was opened on April 14th under the chairmanship of Mrs. Stephen Glanville, and continued for four days, during which many matters important to the profession of nursing were dealt with in a series of debates. We may mention especially the remarks of Dr. T. O. Wood, who in reviewing the present position in the nursing world said that the chief want felt was a uniform system of training, examination, and certification; that a definite standard of proficiency might be reached which would entitle successful candidates to a qualification—not of this or that hospital—which might be a variable quantity—but of one great qualifying body. Nurses might broadly be divided into the following classes: (1) those trained at general hospitals in both medical and surgical nursing; (2) general hospital nurses who have in addition special hospital training, as in fever or children's hospitals; (3) obstetric nurses or midwives; and (4) male and female nurses trained in asylums to attend upon the insane. He referred to the several organisations that existed to register these classes—namely, the Royal British Nurses' Association, which was promoting legislation for the State registration of nurses, and the Medico-Psychological Association of Great Britain and Ireland, which had already one uniform standard of training, examination, and certification throughout the kingdom and the colonies. Dr. Wood also mentioned the Asylum Workers' Association, Queen Victoria's Jubilee Nurses, and the association known as the Midwives Institute. Dr. Wood said that he was glad to see that in the Bills before Parliament for the State registration of nurses the medical profession was well represented upon the proposed council. If State registration became an accomplished fact the scale of fees would have to be arranged upon a reasonable basis, as otherwise many nurses would be debarred from registering and the movement would be a failure. On the same day a discussion was held upon the period of time requisite to train midwives in aseptic principles, when it was generally agreed that the three months enforced by the Central Midwives Board was inadequate for the purpose and that a year's training was desirable. On the last day of the Congress Dr. David Walsh dealt with the vexed question of hospital accommodation for the middle classes.

CONDEMNED FOOD.

THE annual report of the Manchester Port Sanitary Authority shows that instead of becoming less there is a large increase in the amount of condemned food-stuffs. It may be remembered that not very long since Liverpool traders protested against what they seemed to consider the undue severity of the tests used by the Manchester authority. The gross total of condemned food was 881 tons, a large increase on the 216½ tons condemned during the ten months in the previous year. Of grain, 694 tons have been seized and dealt with, the greater part having been released on the medical officer having been satisfied that the particular parcels would not be used for human food. It may be desirable now and then to follow some of these parcels in the changes they undergo in the process of manufacture, so as to make sure that humanity is not fed with them. As is always the case, it is the small percentage of wrong-doers who create the necessity for what might be termed the "policing" of the whole system of this class of trade. There was rather a large importation of pigs' tongues, packed in barrels and preserved in what is known to the experts as "patent pickle." On analysis two points came out in the report, viz.: "That the sample containing the larger proportion of preservative showed the greatest amount of decomposition as gauged by the amount of carbonate and free ammonia; and that the tongue contained a larger percentage of boracic acid and a less percentage of sodium chloride than the liquor." The report deals also with the need for a proper definition of the terms "diseased, unsound, unwholesome, or unfit for the food of man." There seems to be a very prevalent idea among importers that articles should not be condemned unless it can be distinctly proved that they are unfit for the food of man, i.e., unless they may be supposed to exercise a distinct injurious influence on the human organism. This raises a curious question. Will a set of "vile bodies" be set apart for experiment? Probably some authority will have to go to the High Court, if not further, for a proper legal definition to be framed.

THE SECOND INTERNATIONAL MEDICAL CONGRESS FOR INDUSTRIAL ACCIDENTS.

THE Permanent Committee of the International Medical Congress for Industrial Accidents after the first Congress, which was held in Liège, selected Rome for the site of the second Congress, as our Italian correspondent announced in a recent letter. The Italian organising committee appointed an executive committee to settle upon details and the date of the Congress was fixed for May 23rd to 27th. The matters to be discussed at the Congress are founded upon the idea that medical science ought to do its best for the just application of social laws, for the protection of workers, and for the due development of industries and of social well-being. The committee has therefore drawn up the following programme of subjects for discussion: 1. The organisation of a medical and surgical service for the treatment of industrial accidents and for the watching of their remote consequences. 2. Forensic medicine in relation to industrial accidents and the principles by which experts should be guided. 3. Diagnosis and prognosis of neuroses brought about by industrial accidents. 4. Estimation of capability for work before and after accident. 5. The influence of the various ways of compensation upon the evolution of post-traumatic nervous affections. 6. Statistical observations from the medical point of view as regards the application of the law bearing on industrial accidents. 7. Capacity for useful work of organs injured in industrial accidents. Members attending the Congress can read papers upon matters connected with industrial accidents, other than those suggested in the above programme if they like. The subscription to the Congress is 20 francs for members, for ladies and associate members 10 francs. These sums should be sent to the treasurer, Professor A. Asarelli, 38, Via Borgognona, Rome. The President is Professor Salvatore Ottolenghi, and the general secretary is Dr. Tito Ferretti. Though it is unlikely that many British medical men will be able to afford either the time or the money to attend the Congress, yet it is to be hoped that a goodly number will be able to send 20 francs to the treasurer for the sake of the literature which will follow hereafter. Diseases and accidents due to employment are day by day taking a more important place in medicine and surgery, and the reports of this Congress cannot fail to be of interest and of value.

Dr. Arthur Eastwood, bacteriologist to the Royal Commission on Tuberculosis, has published a report dealing with the methods adopted in various American States for the control of tuberculosis amongst herds of cattle, for the protection of human beings from bovine tuberculosis, and for the supply of clean milk. This report, which we shall consider in a future issue, was the outcome of an investigation made by Dr. Eastwood at the conclusion of the International Congress on Tuberculosis held last year at Washington by the desire of the President of the Local Government Board, under whose authority the report is published.

A TELEGRAM from the Governor of Hong-Kong to the Secretary of State for the Colonies states that 7 cases of plague were reported during the week ending April 17th, and that the number of deaths was 6. A telegram from the Officer Administering the Government of Mauritius to the Secretary of State for the Colonies reported the occurrence of 2 fatal cases of plague on April 17th.

WE regret to announce the death of Mr. Simeon Snell, F.R.C.S. Edin., which occurred at Sheffield on April 17th. Mr. Snell was elected President of the British Medical Association at its annual meeting last year and was ophthalmic surgeon to the Sheffield Royal Infirmary.

Dr. J. Lucas-Championnière, president of the International Surgical Congress, has consented to deliver the annual address to the Cardiff Medical Society on Friday, June 4th. The subject of his address will be the Treatment of Fractures.

THE ROYAL SANITARY INSTITUTE.—The *President*, his Grace the Duke of Northumberland, will preside at the annual dinner of the institute, to be held on May 11th at the Langham Hotel. A meeting of the institute will be held in the medical theatre of Birmingham University on May 8th, at 11, A.M., under the chairmanship of Colonel J. Lane Notter, R.A.M.C., when Mr. J. Malcolm, F.R.C.V.S., veterinary superintendent to Birmingham corporation, will open a discussion on Tuberculosis and the Milk-supply.

SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of this society was held on April 14th, Dr. G. F. Blandford, the President, being in the chair. 11 directors were present. Since the last court three members of the court had died—Mr. T. Laurence Read (vice-president), and Mr. G. Eastes and Mr. Charles E. Baker (directors). A vote of condolence was passed to the families of these gentlemen. Application for membership had been received from two medical men and they were duly elected members of the society. One of the annuitants, an orphan, had died. Her mother up to the time of her death had also been in receipt of grants. The father had paid in subscriptions £14 14s. and his widow and orphan had received from the funds of the society £960. Five letters asking for relief had been received from widows of medical men, but this had to be refused as their husbands were not members of the society. Membership is open to any registered medical practitioner who at the time of his election is resident within a 20 mile radius of Charing Cross. The subscription is 2 guineas per annum, and relief is only granted to the widows and orphans of deceased members. Full particulars may be obtained from the secretary at the offices of the society, 11, Chandos-street, Cavendish-square, London, W. The invested funds of the society now amount to over £100,000. [illegible] May 20th, was fixed for the annual [illegible] notice of which will be posted to the members on May 1st.

SOME HITHERTO UNKNOWN CENTRES OF ENDEMIC PLAGUE IN THE KIRGHIZ STEPPES.

(BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

RATHER more than a year ago the Russian [illegible] Commission issued a volume of nearly 500 [illegible] with the subject of plague outbreaks in the country about the mouths of the Volga, in the Astrakhan government, in the *Kirghiz Steppes*, and adjoining regions. The volume[1] has only now reached my hands; it throws valuable light on the records of a series of epidemics, many of which have hitherto escaped notice in other countries and which are of the highest epidemiological interest and importance. A brief summary of the contents of this volume will be of use to many readers of THE LANCET.

The work is divided into three parts: the first is entitled "Plague in the Astrakhan Border, its Epidemiology, and a General Review of the Measures Taken;" the second, "Individual Inspection of the Population of the Inner Bukéef Horde and Adjoining Regions;" and the third, "Trade Routes in the Inner Bukéef Horde and Adjoining Regions." Each section has been written by *medical officers*, *and the investigations* were entirely conducted in connexion with the plague outbreaks and with a view to throwing light on their character and origin and on the best means of controlling or exterminating the disease.

In the first section an account is given, so far as it is known, of the records of plague in these regions from the earliest times down to the famous epidemic in Astrakhan in 1877 and that in Vetlianka and other villages on the Volga in 1878–79. The authors believe that before the nineteenth century the historical plague outbreaks in Russia always had their origin in the west and that the Astrakhan border played no part in their etiology or spread. On the other hand, in the two principal epidemics of the nineteenth century, those of 1807–08 and 1877–79, the disease undoubtedly came to Russia through those regions. The Astrakhan and Vetlianka epidemics they believe to have been caused by an imported infection from the endemic centres of plague in Mesopotamia. Those outbreaks were thought to have been the last in Europe before the date of the recent revival of the disease in China and India and, in more or less pandemic form, through a great part of the world. But, as the following list shows, there was an epidemic on the northern shores of the Caspian Sea some time in the "eighties" of last century, and the first of two epidemics in Aksai occurred as early as 1896, or at a time when the pandemic of plague had not, as far as was hitherto known, spread beyond India and China.

The following is the complete list of plague epidemics (known or suspected) in the Astrakhan border since 1877:—

[illegible]

Irsaly-Aral

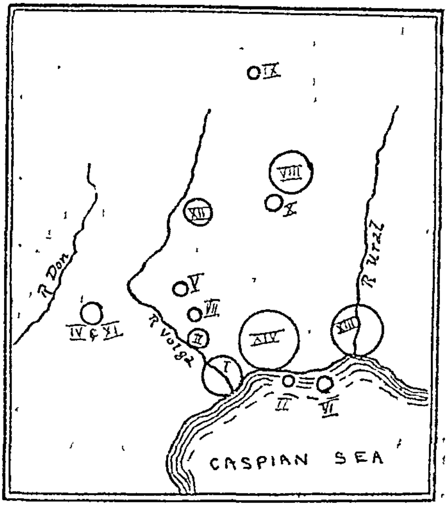
VII. 1900–01.* In Vladimirovka (Tsaref *uyezd* of Astrakhan government)

VIII. 1900–01.* In the Talof region of the Inner Horde (in four settlements)

[illegible]

(Caspian Sea)

An asterisk in this list indicates that bacteriological proof that the disease was plague was available. The scene of each outbreak is shown by means of a circle with the corresponding Roman figure in the accompanying map (modified from a large and detailed map in the volume under notice). There were thus 14 outbreaks in 28 years, including some that passed at the time almost or quite without record and are only presumably examples of plague outbreaks; the presumptive evidence is, however, in most instances very strong. The authors of the report believe that the infection of the 1877–79 outbreaks never died out; that for some 20 years it produced occasional epidemics, which caused little remark, though in some instances they led to a very high mortality (as near Djambai in the "eighties"); and that since 1899 [illegible] endemic, causing yearly epidemics [illegible] egion bounded on the east by the [illegible] y the Volga and the country adjoining the angle where the Volga approaches the Don, on the south by the Caspian Sea, and on the north by the Novouzensk district of the Samara government. The reports are accompanied by a series of valuable maps and diagrams and charts, fully illustrating the history and geography of these various outbreaks, and greatly facilitating the comprehension of this little known chapter in epidemiology.



[illegible]

The 1877–79 outbreaks have been too often described to need any further reference here. There follows a period of 17 years of doubt and uncertainty. Some time in the "eighties" of last century a deadly epidemic occurred on an island inhabited by Kirghiz, situated at the north end of the Caspian Sea and not far from the village of Djambai on the mainland. No skilled observer saw any of the cases. The local authorities sent a steamer to the island with a commission instructed to investigate the outbreak; but, "it is said," none of the commissioners dared to land for fear of the infection; they contented themselves (again "it is said," in the words of the report) with throwing overboard two bottles of brandy for the wretched islanders. Every inhabitant of the island is said to have died. It is uncertain whether the disease was actually plague, as the most prominent symptoms were said to have pointed to some cerebral affection; but the authors of the report are none the less inclined to believe that it was an outbreak of plague.

[illegible] of plague in these regions declared that he saw a similar fatal disease in the place and at the time just named, that the symptoms were identical, and that about 40 deaths occurred on the earlier occasion.

In 1896 occurred yet another unrecorded epidemic; this was in the village of Aksai, in the Tcherno-Yar district of the Astrakhan government. The village is situated on the

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[1] Sbornik Rabot po Tchumye. Edited by Dr. V. I. Isaief, Honorary Physician to H M. the Tsar.

Aksai, a stream which flows into the Don. In September, 1896, a fatal disorder broke out among the 2000 inhabitants, and in the course of three months caused the death of some 60 persons. When six years later the epidemic of plague (proved bacteriologically), which is described below, occurred here it was recognised that the mortality in 1896 must have been due to the same disease. Several whole families were carried off by the infection. The district medical officer, who lived at Tcherno-Yar, 113 versts from Aksai (this detail throws a lurid light on the situation), described the disease as typhoid fever with enlargement of glands, particularly in the groin, and occasionally with petechial rashes, and added that it was very infectious and fatal.

In 1899 came the Kolobovka epidemic. This village is situated in the Tsaref *uyezd* (district) of the Astrakhan government. The disease—a very infectious form of pneumonia—appeared there on July 16th, and between that date and August 12th there were 24 cases with 23 deaths; only one person, a woman, aged 51 years, recovered. By this time plague, both bubonic and pneumonic, was becoming once more a known disease; the bacillus had been identified and diagnosis was relatively easy. Material from these cases was examined by experts and was found to contain the Yersin bacillus. This outbreak was described by me at the time (from Russian sources) in the columns of THE LANCET.[2]

In October of the same year plague broke out on the islands of Irsaly-Aral, Kishkiné-Aral, and Kiné-Aral, at the northern end of the Caspian Sea. The outbreaks on the two last-named islands were also described by me at the time in the pages of THE LANCET,[3] but not that on Irsaly-Aral, which was not mentioned in the Russian reports published at that period. In Irsaly-Aral, out of a population of 52 (Kirghiz, living in *aouls*) 25 were attacked by the disease and 22 died, only 30 thus remaining alive. In the other two islands, out of a total population of 64, 39 were attacked and all died, leaving only 25 living. The bodies of the dead remained unburied, the survivors fearing to touch them. No living cases were seen by medical men in Kishkiné-Aral and Kiné-Aral, and only moribund cases in Irsaly-Aral. No bacteriological examination was made, but clinically and from the appearance of the bodies after death the disease was believed to have been plague, apparently of the pneumonic variety. The outbreak was apparently self-limited.

In December, 1900, plague was recognised in the Vladimirovka *sloboda* (= large village), again in the Tsaref *uyezd* of the Astrakhan government, lying on the left bank of the Volga, 150 versts south of Tsarytsin. The outbreak probably began in September. 18 cases of the disease were registered and of these 16 died. The disease was bubonic in character; the cases were seen on this occasion by medical men, and detailed clinical histories, with temperature charts, are published with the reports. Bacteriological examinations were also made and established beyond doubt that the disease was in fact the plague.

On Dec. 23rd (Old Style), 1900, the existence of a fatal disease was reported from the *urotchishché* (= collection of *zemlianki*, or half-underground earth-huts) of Tekebai-Tubek. This is situated in the Talof region of the Inner Kirghiz Horde, 40 versts from the railway station of Alexandrof-Gai and 18 from the town of Talovka. The disease apparently began in another *urotchishché*, that of Atchikbai, 25 versts further south; then spread to Tekebai-Tubek; later it appeared in a third, that of Mereké, eight versts from the second; and still later was carried by refugees to a fourth, that of Karakuga, on the borders of the Uralsk province. In the first three places, in the course of a month and a half, the disease appeared in 28 different earth-huts (23 in Tekebai-Tubek, four in Mereké, and one in Atchikbai). There were 154 cases in all and 140 deaths (124 in Tekebai-Tubek, 13 in Mereké, and three in Atchikbai). The total population of the infected huts was 174, so that 90 per cent. of these fell ill and 80 per cent. died. In 15 huts, containing 74 persons, every person died. The disease was apparently pneumonic plague; neither buboes nor petechiæ were seen in a single case. Necropsies (made in 14 cases) and bacteriological examinations showed that the disease was pneumonic plague, with, in some instances, a mixed infection with the plague bacillus and the pneumococcus. In Karakuga there were 14 cases and 13 deaths. But here energetic measures were taken to put an end to the epidemic, including the isolation of the sick and the inoculation with Haffkine's prophylactic of 170 persons, and the outbreak declined from the moment these measures were put in force.

In March, 1901, an outbreak of plague was discovered in the village of Alexandria, in the Novoüzensk district of the Samara government, immediately adjoining the above-named Talof district of the Inner Horde. The village lies on the same stream (the "Little Uzen") as Tekebai-Tubek, just named above. The disease appeared there in the later months of 1900. No case was seen by a medical man. Out of a population of 424 over 60 died. In the early months of 1901 a few more deaths occurred; a bacteriological examination was then made in two instances, but the plague bacillus was not found. Nevertheless, the authors of the report believe the 1900 outbreak to have been one of plague, most of the cases being of the pneumonic variety, and that there was probably a mixed infection with the plague bacillus and the pneumococcus. Some cases of anthrax (proved bacteriologically) occurred about the same time and gave rise to the theory that the outbreak was not one of plague but of anthrax. On the other hand, it is pointed out that the latter disease is of frequent occurrence in these regions, that plague and anthrax have on other occasions been seen to coexist and instances are quoted (in detail) of persons suffering from the two diseases at the same time. The existence of anthrax in the village does not then exclude the possible presence of plague, and the fatal epidemic in the village of Alexandria is thought to have been of the same nature as that in Tekebai-Tubek and the adjoining places.

In 1902 two plague outbreaks occurred in these regions: the first in the *urotchishché* of Ush-Kuduk, in the Talof region of the Horde, where six cases and five deaths were recorded, and the second in the village of Aksai, already mentioned as the scene of an unrecorded epidemic in 1896; here 33 cases and 20 deaths were registered.

In 1903 plague appeared in the village of Buikof, in the Tsaref *uyezd* of the Astrakhan government, and in three adjoining *khutors* (= large farms), bearing the names of Bulukhta, Muguta, and Zubof; 14 cases and 12 deaths occurred in all. The diagnosis of plague (bubonic) was confirmed by bacteriological inquiry; here again anthrax (also proved bacteriologically) was prevalent at the same time

In 1904 a much more serious outbreak occurred in the Gurief *uyezd* of the Uralsk province. The Kirghiz inhabitants of three villages—Yamankhalinsk, Saraitchikof, and Sorotchinsk—situated 35 versts along the postal track from Gurief to Uralsk and on either side of the Ural river were affected; between Nov. 1st, 1904, and Jan. 4th, 1905, no less than 415 deaths occurred.

An even more deadly epidemic broke out in 1905. In August of that year plague appeared in the *Primorskia* ("Maritime") districts of the Astrakhan government, in the Narynsk region of the Horde, and on the island of Fedr; all these districts are at the north end of the Caspian Sea The existence of the outbreak here only became known two months after it had begun; then when a medical mission arrived on the spot over 500 dead bodies were found in 42 different *urotchishchés*. No exact figures were available as to the number of cases or deaths, but approximately it was reckoned that 565 persons fell ill and 527 died. The proportion of cases to the whole population was no less than 65 per cent.

This completes the list of outbreaks dealt with in the volume under notice. It will be seen that it brings the records down only to the year 1905. Other epidemics have undoubtedly occurred since; as late, indeed, as last summer it was reported that nine cases with four deaths from plague had occurred among the Kirghiz inhabitants of the steppes of the Astrakhan government.[4] No further details were available at the time, and it may be hoped that the Russian Plague Commission will continue to publish—and at not too long intervals—reports on the further history of the disease in these regions as full and detailed as those in the present volume.

It is clear from the foregoing that the stretch of country about the mouths of the Volga and Ural rivers must be regarded as, for the present, a true endemic area of plague, comparable to those that formerly existed in Mesopotamia, in portions of Persia, in Assyr, and elsewhere. It is also clear that the practical difficulties in the way of stamping out the disease in this area are very great. Fortunately, however, just as in the case of the other historical areas of endemic plague just mentioned, the disease does not show any tendency to spread from the infected regions to others and thus to cause a widespread epidemic. The Kirghiz Steppes hold little direct communication with the rest of the world and thus the danger is limited. But for the inhabitants of those isolated regions the danger is great, one might say terrible, as is shown by the above-quoted records of whole households, whole villages, whole islands losing their entire population in the course of a few weeks or months from the deadly disease with no outside help and no hope of escape.

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[2] THE LANCET, Sept. 16th, 1899, p. 810.

[3] THE LANCET, Feb. 3rd, 1900, p. 351.

[4] THE LANCET, Oct. 3rd, 1908, p. 1040.

There is no doubt that the Russian authorities realise the situation, and the excellent work recorded in the second and third sections of the volume under notice should prove of great value in laying the foundations for practical remedial measures. In the second section a full account is given of the ethnolc [illegible] he infected regions, including an [illegible] the various types met with, their [illegible] and mode of life; of the climatology, flora and fauna of the country; of the vital statistics, so far as known, of the inhabitants; of the principal reigning diseases; of the existing provision for medical aid; and, finally, of the results of an individual inspection of the entire population not only of the Inner Bukéef Horde of Kirghiz but also of the Uralsk province and of Transcaspia. Finally, the third section deals with the trade routes in these regions and the principal lines of communication between them and other territories in Europe and Asia. It is unnecessary to give here even a summary of these chapters in which the matter is discussed from the point of view of history.

A vast mass of material of a highly interesting and useful character (and that not solely from the medical point of view) has been brought together in these reports, and it is a matter for regret that they appear in a language but little known outside Russia. Before closing this brief summary it should be added that in none of the plague epidemics above described was there evidence of the disease being spread by rats or other rodents. At the time of the Kolobovka outbreak 4128 different animals (including rats, mice, bats, marmots, snakes, and many domestic animals) were examined, and in none of them was the plague micro-organism detected. In the Vladimirovka outbreak and in those at Tekebai-Tubek and adjoining places inquiry was specially made as to the occurrence of mortality among rats, and in both with negative results. The authors of the report consequently come to the conclusion that rats and other rodents have not played any part in the spread of plague in these regions, though they are careful to add that the evidence is only presumptive and incomplete, and that caution is necessary in any case in coming to an absolutely negative conclusion.

Constantinople, April 3rd.

SANITATION IN INDIA.

II.[1]

Bengal.

THE fortieth annual report of the Sanitary Commissioner for Bengal for the year 1907 has been furnished by Lieutenant-Colonel F. C. Clarkson, I.M.S., the Sanitary Commissioner for Bengal. In it we find recorded remarks on the meteorology, vital statistics, chief diseases, vaccination in the Province, sanitary work, and the work of the Sanitary Board, with certain appendices. With respect to the meteorology, we learn that there was practically no rainfall in January in Lower Bengal, but that there were very heavy rainfalls during the next three months, that in Orissa being exceptionally heavy. In June although the south-west monsoon was actively established about the normal date yet it was restricted to a comparatively small area. The October rainfall was unfortunately defective in all districts, thus exercising a prejudicial influence on the winter rice crop.

With regard to the vital statistics, the number of births and deaths registered during 1907 amounted to 1,905,425 and 1,906,192, as compared with 1,885,725 and 1,823,243 respectively for 1906, the corresponding ratios being 37·70 and 37·72, and 37·32 and 36·08 per 1000 of population. The deaths were thus 82,949 and the births 19,700 in excess of those of 1906. The high price of food grains and the general unhealthiness of the year 1906 appear to have devitalised a large proportion of the people and checked the normal growth of the population. Compared with the other provinces, Bengal and Assam now come fourth and fifth. The experiment started in 1906 in the district of Burdwan for testing the registration of vital statistics in rural areas was continued throughout 1907. The usual inequality of births at different times of the year was very well marked, the registration at Murshidabad, for example, during June to September being very distinctly below the four months October to January, the only explanation which is apparent being that during the months of hard work in the fields there is a relative sterility which is compensated for by the opposite condition in the months after the harvest is gathered. With the single exception of fever the mortality from all the other causes was as usual higher in towns than in rural districts. Notwithstanding its filtered water-supply the cholera death-rate in Calcutta was only slightly smaller, probably due to the use of unfiltered Hooghly water for drinking and to flies settling on the food.

Coming now to the history of the chief diseases, we see that the mortality from cholera was unusually heavy, heavier even than that for 1906. In fact, 1907 was the blackest year on record except 1900, when the loss of life from this disease was the heaviest ever registered. There were 205,702 deaths as contrasted with 138,999, the average of the five years 1902-06, the corresponding ratios being 4·07 and 2·75 per 1000. This heavy mortality was probably due to the increasing pollution of the water-supply and the use of unwholesome things by the poorer classes in consequence of the abnormal rise in the price of foodstuffs. No district enjoyed complete immunity from it. Other causes noted for this large mortality were the use by the people of the beddings of cholera patients without proper cleansing, the throwing away of dead bodies instead of burying or burning them, thus contaminating the nearest water-supply, and eating unripe fruit. The wells were disinfected with permanganate of potassium with good result in a part of Burdwan and Midnapore only. Whenever this was properly carried out it was found that cholera was stopped in the locality. The people seem to be gradually beginning to appreciate the value of this measure.

Small-pox in 1907 maintained the upward tendency of the mortality noticed in 1906. The plague mortality went up, there having been 83,602 deaths, as against 59,619 of the preceding year; more females than males died. Captain Swanzy, R.A.M.C., who was in medical charge of the cases at Jalapahar, with his hospital assistant, compounder, and bhisti, fell victims to the disease. We are glad to note that anti-plague inoculation is gradually gaining in popularity, there having been 2766 inoculations, against 1777 in 1906 and 1544 in 1905. Among the inoculated one case of plague is reported to have occurred at Bhagalpur and one death at Champaran. The latter had almost certainly become infected before the operation. In Calcutta 3123 were inoculated, as against 101 in the previous year. No case of plague was known to have occurred amongst this number. Evacuation is the measure chiefly relied on, chemical disinfection having been practically given up. As a measure against fleas crude oil emulsion was used as a disinfectant. Much has been done also in educating the populace by means of pamphlets and instruction in plague prevention. Rat extermination was also carried out in many places of the province; 541,313 rats were killed in the Jagadispur circle of the Shahabad district. Fever prevailed with greater severity in 1907, 1,171,540 persons succumbing to it, as against 1,132,579 in 1906. Dysentery and diarrhœa showed also an increased number of deaths, giving a ratio of 1·02, as against 0·96 in 1906, the excess in mortality being probably due to the greater prevalence of cholera in 1907, the same causes contributing to both these classes of disease.

With reference to the sanitary work undertaken there was a very satisfactory increase in the expenditure under the important heads of sanitation—viz., conservancy, drainage, [illegible] -supply. Much attention has, we are g[illegible] [illegible] paid to the latter with respect to [illegible] also been directed to the disposal [illegible] re has been paid to the observance and medical precautions at all important fairs and festivals during 1907 with respect to the public and semi-public wells. Lieutenant-Colonel Clarkson is to be congratulated on the excellence of his report.

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[1] No I. was published in THE LANCET of April 10th, 1909, p. 1067.

Central Provinces and Berar.

Lieutenant-Colonel A. M. Crofts, I.M.S., contributes the annual sanitary report for the Central Provinces and Berar for the year 1907. In these districts the climatic conditions were decidedly abnormal, there having been an unusual amount of rain in the cold and hot weather, a delayed and weak monsoon during June and part of July, very heavy rain during the rest of July and August, and drought during the last four months of the year. These conditions were in marked contrast to those of 1906, which was a decidedly unhealthy year, but they were not much conducive to better health except as regards the diminution of autumnal fever due to the early withdrawal of the rains. The mortality was 41·70 per 1000, and no year in which the mortality is as much as 40 per 1000 can be described as healthy. The birth-rate—52·46 per 1000—was again the highest in India, it only having been exceeded in 1905 and 1904 out of the last 25 years. The death-rate was 38·96 per 1000, but it is in reality not nearly so high as the official record shows when we consider the allowance that must be made for the influx of people attracted by the commercial development of the province and the return of emigrants who were temporarily absent at the census. The terrible waste of infant life, as a result of bad feeding, exposure and ignorant treatment, early marriage, and generally insanitary surroundings, must be looked for until education, and especially female education, is more widely diffused.

With respect to the chief diseases, the province suffered from two distinct epidemics of cholera, the first, a mild one, from January to June, being traced to the return of pilgrims from the Allahabad, Benares, and Puri fairs. The sources of infection in both epidemics probably were the fairs, the drying up of wells and tanks, and the consequent necessity of drawing water from jhirias sunk in the polluted beds of streams and nullahs, the spread of the disease being favoured by the gathering together of large parties in connexion with the marriage season. Small-pox showed, generally speaking, a decreased death-rate, but in Mandla this was not the case, which is put down to bad vaccination in the past few years. The exact prevalence of malaria was difficult to estimate, as there was reason to suspect that plague and many other diseases attended with febrile symptoms were registered under this heading; the incidence of these diseases as judged by dispensary statistics was lower than usual. The anti-malarial operations undertaken in the headquarters town of Betul were continued; it was not found possible to exterminate the mosquitoes, but their numbers are greatly reduced, as the natives are now finding out the danger of leaving stagnant water near their houses. Packets of quinine have been sold during 1907 in a more extended manner. With regard to diarrhœa and dysentery, there was a high mortality in Berar due to some extent to the consumption by the poorer classes of old damp and mildewed juari from earthen pits in which the grain is sometimes stored for years. The mortality from respiratory diseases was 1·24 per 1000 in excess of the preceding year, being at the rate of 2·64 per 1000; this may be partly due to the people living in temporary huts during the prevalence of plague, as they do not afford protection from the weather, and partly to better registration.

Coming now to plague, we find 37,774 deaths reported, more than half of which occurred in the Berar division. The special measures adopted for its prevention and spread continue to be inoculation, evacuation of infected areas, and destruction of rats. The prejudice against and suspicion of official methods of treatment have gradually become less widespread. Preventive measures are much more willingly undertaken in those places that have suffered severely in the past, in contrast to those districts that have not been so greatly attacked. Inoculation has not been so popular as was expected, but still a large number of operations were carried out chiefly through the tact and ability of Captain Morrison, I.M.S. There were 14,440 cases inoculated; the carrying out of this precaution is shown to have been much aided by the example and assistance afforded by the leading men of the district, Baboo Bakthanar Singh being especially praised in this direction. Such assistance, it is to be hoped, will be the rule in the future, as it is impossible for the overburdened civil surgeon in charge of large and populous civil districts to afford the time necessary to induce the people concerned to protect themselves by this method. It was found that the immunity period gained by inoculation was about two years. A wise endeavour is being made to check as far as possible the degree of immunity conferred, so as to place before the eyes of the people object-lessons in the persons of the inoculated who have escaped, whilst the uninoculated have succumbed. Lieutenant-Colonel Crofts wisely insists that inoculation, evacuation, and sanitation hold the chief places in prevention, and that while rat destruction is a valuable aid to these measures, it must not be considered superior to them. Lieutenant-Colonel Buchanan, I.M.S., is convinced that the most effective method, however, in this respect is to keep cats, and he states that where the percentage of cats in houses is large, there an epidemic will not occur.

With respect to snake-bites, 39 cases were brought to the various dispensaries, 24 of which were treated with Calmette's antivenene, of which 18 recovered and six died. Permanganate of potassium failed in cases which were subsequently treated with success with antivenene; it is successful where the echis is concerned, although apparently it is not so with the Bungarus cæruleus. Lastly, it may be noted that 209 cases of cancer were treated in the dispensaries. The report concludes with an account of the various sanitary works undertaken by the Public Works Department.

North-West Frontier Province.

Lieutenant-Colonel G. W. P. Dennys, I.M.S., in his report on the sanitary administration of the North-West Frontier Province for 1907, deals in like manner to the reports which we have been considering with all the sanitary details of the district under his charge. In this province there were 62,[illegible] births registered in 1907, against 76,834 of the previous year, the latter being the highest on record since the formation of the province, the ratios per 1000 being 32·5 against 38·6 for the respective years. The decrease is attributed largely, if not entirely, to the severe malarial fevers, followed by the usual sequelæ, that occurred during the first three months of 1907. This not only reduced the proportion of child-bearing women but also impaired the fecundity of the remaining population. With the exception of Madras, the birth-rate of this province was the lowest in India. There was a marked preponderance of male over female births. With respect to the rate of mortality there was a decrease of 172 on that of 1906—namely, 67,017 in contrast with 67,1[illegible], the death-rate per 1000 being 35·1, against 33·7 in the previous year; the mean death-rate for the five previous years was 29·6. The first two months of the year showed a very heavy mortality, due to the severe malarial epidemic occurring in the autumn of 1906. The mortality also was heavy in November and December of 1907 owing to the unusually early and severe onset of cold weather, when the people were still suffering from the effects of autumnal fevers. As usual, the latter head the causes of death, the rate being 27·4 per 1000, against 26·1 of the previous year.

Plague, from which the province had been so long immune, at last crossed the Indus and became for the first time epidemic. The outbreak in Peshawar was traced, it is believed, to the importation of a rat dead from plague in a consignment of grain. A few days after this the shopkeeper noticed dead rats in his shop, and later both he and his son died from the disease in another part of the town in which they resided. Cases next appeared in the immediate neighbourhood of the shop. The shopkeepers affected slept at night in various parts of the city and no doubt carried with them plague-infected fleas; then shortly afterwards a large number of rats dying from plague were observed and next a number of human cases were noted. The disease lasted from the beginning of April to the end of July, when it died out entirely. The death-rate in Peshawar from plague was at the rate of 89·2 per cent. owing to the disinclination of the people to report cases; the number was certainly larger than the plague returns showed. With respect to treatment, 534 persons were inoculated with excellent results; in only one case did the disease occur and this was contracted in a very mild form and a rapid recovery was make. The people showed no violent opposition to the operation, but with the abatement of the disease they reverted to a condition of apathy regarding it. Much credit was due to the excellent work done by Captain E. C. Hepper, I.M.S., the special plague officer at Peshawar. The people were greatly excited by absurd rumours as to the poisoning of wells, resulting in a feeling of utter distrust often reaching [illegible] English medical men. Captain [illegible] good temper gradually restored [illegible] at were undertaken.

[illegible] cholera gave 266 deaths during [illegible] suspicious case of vomiting and purging occurred in the person of a stranger who came from down country to a village in the Kohat district. His clothes were washed in a nullah, and a few days afterwards several cases of the disease occurred in a village farther down the [illegible] drinking [illegible] es of the [illegible] recorded [illegible] ath-rate [illegible] aria and [illegible] Small-[illegible] 27 of the previous year. In the city of Peshawar, which is one of the towns in the province where the Vaccination Act has not been brought into force, a death-rate of 0·80 per 1000 was recorded. The highest death-rate, 3·29, was given by the town of Buffa; this is very unsatisfactory, as the Vaccination Act was brought into force in this town in May, 1906, and the natural inference is that the provisions of the Act were not rigorously enforced. Dysentery and diarrhœa [illegible] emained much the same as in previous years, as usual the [illegible] atio being highest in the Dera Ismáil Khan district, where the drinking water is as a rule very bad.

This report of Lieutenant-Colonel Dennys, although somewhat short, the text being limited to eight pages, is a model of conciseness, and reflects the greatest credit on the well-established reputation of this officer.

MEDICINE AND THE LAW.

A Medical Man's Claim for Fees against an Ambassador.

ON March 31st, in the Marylebone county court, his honour Judge Sir William Selfe had before him a claim for £10 17*s.* 6*d.* made by Dr. A. S. Currie of Oxford-terrace, Hyde Park, the defendant being General E. M. Terán, now residing at Alexandra-terrace, West Hampstead, who did not appear. When this claim was called before the registrar the defendant set up the defence of immunity from process on the ground that he was Envoy and Minister Plenipotentiary to this country from the Republic of Ecuador. The defendant's letters of recall had since that time been issued, and a letter from the Foreign Office was read stating that such letters of recall had been received, and adding that after their date General Terán could not claim immunity from process on account of his diplomatic position. It was contended for the plaintiff, on the authority of the case of Musurus Bey, decided in 1894, that the immunity was unconditionally removed for any period. Dr. Currie gave evidence that he had attended the defendant's children at his residence at Hampstead in May and June, 1907, and his fees amounted to the sum claimed. The judge inquired why the action was not brought earlier. The plaintiff replied that the claim was made, but the plea of immunity was set up, and he therefore decided to await the expiry of that position before coming to court. His honour gave judgment for the amount claimed with costs. Ambassadors and Ministers of foreign States hold a somewhat curious position. It would be impossible for an envoy efficiently to discharge the duties of his mission if his liberty of action was restrained like that of any other sojourner by obedience to the local jurisdiction. In order, [illegible] certain exemption from such jurisdiction. While such privilege continues the envoy remains subject to the laws of his own State which [illegible] property according [illegible] resident in a foreign [illegible] the territory of his own. Such is the nature of the fiction of exterritoriality invented to give intensity to the idea that the envoy, his family, and his suite are exempt from all local control. The exemption, which is supposed to rest upon a tacit compact between the sending and receiving State, begins the moment the envoy enters the territory of the latter, and continues not only during his entire residence but until he loses his official character or leaves the country, even when prior to his departure war has broken out between his own State and that to which he [illegible] ivilege continues it exempts the [illegible] le effects from the local jurisdic-[illegible] through him it is extended to those of his suite possessing a diplomatic character; and in a lesser degree to his wife, children, chaplain, private secretary, and servants, persons necessary to his comfort and convenience but not a part of the diplomatic corps of his country. An ambassador, having no real property in the country and having done nothing to disentitle him to the general privileges of [illegible] ambassador, be sued [illegible] suit may arise out of c[illegible] although neither his person nor his goods are touched by the suit. But if the ambassador appears and submits to the jurisdiction the action can then be proceeded with.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 23rd, 1831.

SOCIETE DE PHARMACIE DE PARIS.

February 8th.

NEW METAL, VANADIUM.[1]

M. DULONG read a letter from M. Berzelius, announcing the discovery of this new metallic substance. M. Selstrom, director of the mining school at Fahlun, in the examination of a specimen of iron remarkable for its extreme softness, recognised in it the presence of a substance, the properties of which are different from those of all bodies hitherto described. The quantity contained in the specimen first examined was so small as to prevent a successful inquiry into its nature. The iron was brought from the mine of Taberg, in Smoland, and M. Selstrom having found that the smelting furnace contained a greater quantity of the new substance than the iron did, and that the scoriæ were still more richly impregnated with it, a sufficient quantity was procured and examined conjointly by MM. Berzelius and Selstrom.

It is provisionally termed Vanadium, from Vanade, the name of a Scandinavian divinity. Vanadium forms with oxygen two compounds, an oxide and an acid. The acid is red, pulverulent, fusible, and crystalizable after fusion as it cools. It is slightly soluble in water, reddens turnsole, affords yellow neutral, and orange supersalts. The acid and basic combinations which it forms, possess in solution the singular property of frequently becoming colourless in a moment, and they resume their colour when again solidified. Hydrogen gas reduces vanadic acid to a reddish-white colour, there remaining a coherent mass of a weak metallic splendour, and an excellent conductor of electricity. The vanadium thus obtained combines only with sulphur, when heated to redness in an atmosphere of the vapour of that substance. The oxide of vanadium is brown, nearly black, and dissolves readily in acids. Its salts are of a deep-brown colour, but by the addition of a little nitric acid, effervescence takes place, and the colour becomes a beautiful blue. Sulphuretted hydrogen, and even nitrous acid, reduce the vanadic acid when in combination with any other acid to this blue matter, which appears to be a compound of the oxide of vanadium and vanadic acid analogous to the compounds formed by molybdenum, tungsten, iridium, and osmium. The acid and oxide of vanadium combine with each other, forming green, yellow, and red compounds, soluble in water, without the aid of any other acid.

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[1] It subsequently appeared that this substance was first found in a [illegible] in Mexico in the year 1801, by Del Rio, who [illegible]

The oxide of vanadium when obtained, *viâ humidâ*, is soluble in water and alkalies. The presence of a salt in the water entirely prevents the solution, and we thus obtain a mode of precipitating oxide of vanadium, by adding to its solutions any neutral salt.

The vanadates dissolved in water are decomposed by sulphuretted hydrogen, being transformed into sulpho-salts of a beautiful red colour. The chloride of vanadium is a colourless liquid, exceedingly volatile, and producing a dense red vapour. The fluoride is sometimes colourless, sometimes red, but always fixed in the air. Before the blowpipe, vanadium colours the fluxes a beautiful green, like chrome.—*Journal de Pharmacie, Mars, 1831.*

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

Borough of Richmond.—Dr. J. H. Crocker devotes some space in his report to a consideration of the question as to whether intercepting traps between the sewer and the house should continue to be provided and whether their presence can be safely dispensed with. As is well known, there is considerable difference of opinion amongst sanitary engineers as to the value of these traps, those who disapprove of them holding that the frequency with which they become stopped up more than counterbalances any advantages which they possess. A number of these traps have been inspected in Richmond and a certain number of them showed evidence of having been recently stopped up, but in only one instance was the "cap" over the "raking" arm not in position. It appears to be generally conceded that in old properties, where the process of properly ventilating the sewers by the house drains would have to be gradual, there is considerable objection to the proposed alteration, as theoretically there would be accentuated stress put upon the ventilators which were placed in direct communication with the sewers. There is, too, the objection that in old properties the drains are frequently defective and that in cases where, as in town, the drains pass beneath the house the chances of the influx of sewer air would not be negligible. The problem is materially complicated by the fact that the sewer must be ventilated somehow and that this frequently necessitates the erection of a sewer ventilator on a house. But in these cases there is no chance of insuction of sewer air, as would undoubtedly be the case were each house drain ventilator also a sewer ventilator. Water-closets may become unsyphoned in so many ways and house drains so frequently become defective that many persons would hesitate before placing their house drains in direct communication with the sewer air. If an intercepting trap becomes obstructed and drain air enters the house the inhabitants are dealing only with such infections as they already possess, whereas, when there is no such trap they may be dealing with the common sewer air, which, as we now know, is capable under certain conditions of transmitting micro-organisms. It is obviously a very difficult matter to actually demonstrate the relative dangers associated with one or another system, but it is not improbable, having regard to the defects to which drains and sewers are liable under existing conditions of construction and want of supervision, that some medical officers of health would be unwilling to part with the trap which can be controlled and which will, if controlled, guard against invasion of micro-organisms from sewer air. Dr. Crocker thinks that in laying out new districts the intercepting trap might be dispensed with, provided, of course, that sewers and drains were practically perfect, but he does not think that the use of the traps can be dispensed with in existing properties. The question is under the consideration of the Local Government Board, and perhaps some pronouncement upon the subject may be anticipated.

County Borough of Southport.—Mr. John J. Weaver estimates the population of this important Lancashire health resort at 53,318, a number which is, we imagine, greatly augmented during the summer months. The birth-rate for 1908 was 16·84 per 1000, the death-rate (exclusive of visitors) 11·35 per 1000, and the infantile mortality 104 per 1000 registered births. The experience of Southport in the matter of "return" cases of scarlet fever is interesting so far as it goes. A discharging block was erected a few years ago and subsequently the number of "return" cases appeared to increase, and this increase, it is thought, may have been due to the setting up of catarrhal conditions due to the sudden change from artificially heated wards to the conditions of the average home. Consequently, endeavours have been made to render the change less sudden and the temperature of the final bath has been lowered, with the result, it is believed, of a diminished number of "return" cases. But these numbers are small and, as Mr. Weaver evidently feels, it is necessary to speak with caution on the subject. Still, up to two years ago, the "return" cases amounted to rather over 5 per cent. of the total, whereas since then they have been reduced to a little under 1 per cent. Mr. Weaver made a report to the education committee relative to the medical inspection of school children, in which he advised the appointment of an assistant medical officer of health who should perform the inspections, and of a nurse who should act both as regards school work and infantile mortality, but the council has apparently decided to keep the duties of the school officer distinct from those of the health department. New sewage works have recently been erected, consisting of sedimentation tanks and bacterial filters, the effluent passing out into the estuary of the Ribble. As regards the sewers themselves, the surface ventilators were closed some years ago and ventilation provided for by ventilating lamps. Coincidently with the adoption of the policy there has been a great diminution in the notifications and deaths from enteric fever. The analysis of certain foods in this district has yielded some rather striking results. In certain sausages boric acid to the extent of 38·2 grains per pound was found, while some potted shrimps, for which Southport is famous, contained 58·15 grains of boric acid per pound. One sample of "potted lobster" was found to contain no lobster, and another 27·7 grains of boric acid. Two samples of fish paste with lobster contained 56·44 and 43·4 grains of boric acid per pound respectively, and two samples of potted shrimp and salmon yielded respectively 63·3 and 67·7 grains per pound of boric acid. *All these latter cases were dismissed!*

Woodford Urban District.—The Notification of Births Act was adopted in this district only after considerable opposition at the hands both of the ratepayers and the medical profession, and a similar hostility appears to have been encountered at the appointment of a health visitor. But the health visitor obtained a better appointment after ten months' work in the district, and although Mr. W. G. Groves, the medical officer of health, reported that the results of her work and of the Notification of Births Act were satisfactory and promising, the district council when appointing another health visitor decided not to insist on early notification of births. The medical officer of health is naturally disappointed at this, as he regards the two provisions as largely interdependent. Mr. Groves states that in his view the effect of isolation hospitals in preventing the spread of infectious diseases has been less than was anticipated. This opinion appears to be becoming fairly general amongst medical officers of health. The medical inspection of school children in this district is carried out by medical officers appointed by the Essex county council.

Borough of Tunbridge Wells.—Mr. William Stamford reports that the town council has had under consideration the medical inspection of school children and has formed an elementary school medical department for the borough. This is to consist of the medical officer of health, three medical officers, and a nurse. The medical officer of health is to supervise generally and to report to the education committee and the Board of Education; the three medical officers are to conduct the correspondence, to examine the children, and to prepare returns for transmission to the medical officer of health; while the nurse is to attend on the medical officers, to follow up cases where necessary, and generally to carry out the instructions of the medical officers.

Borough of Guildford.—There was an outbreak of scarlet fever in this town in January, 1908, which was believed by

Dr. R. W. C. Pierce to have been probably caused by a girl, daughter of a cowman, having indirectly infected the milk-supply. This girl had been isolated in a fever hospital in another part of the country while suffering from diphtheria, and during her stay at the hospital she developed a rash which was ascribed to antitoxin, but which may, it seems, have been a scarlet fever eruption. It is possible, however, that the milk may have been infected by another man in contact with the milk, one of whose children had suffered from illness with a rash some three weeks previously. The fact has also to be mentioned that one of the cows had an eruption on its teats. On excluding both the men in question, as also the milk of the affected cow, the milk at once ceased to spread disease. There were seven instances of "return" cases of scarlet fever during the year under notice, and nearly all were associated either with recurrent nasal discharge or enlarged tonsils and adenoids. One child had been in hospital nearly 19 weeks. In 1906 18 cottages were built by the council and all of them were occupied throughout 1908 at rentals of 6*s.* 6*d.* and 7*s.* 6*d.* per week. The question of adopting the Notification of Births Act was considered by the council, but having regard to the low infantile mortality rate (73 per 1000 births) it was not thought desirable to incur the expense. Moreover, the Guildford division of the British Medical Association objected to the adoption of the Act owing to there being no fee attached to notification.

THE MEDICAL INSPECTION OF SCHOOL CHILDREN: ANNUAL REPORTS OF MEDICAL OFFICERS.

Berkshire Education Committee.—Dr. Gerard O. Taylor, who is county medical officer of health as well as school medical officer, in presenting his first annual report in his latter capacity, states that as regards school closure in outbreaks of measles or whooping-cough the usual practice has been to close an infant department when either of the diseases is prevalent in the neighbourhood and the attendance has already been seriously affected; but he expresses a doubt whether, in view of the opportunities for infection outside the school, closure even at an early stage of an epidemic is of much benefit in checking the spread of the malady. With respect to the sanitary condition of schools, Dr. Taylor reports that when no sewers are available earth-closets are being gradually substituted for privy-pits and cesspools, the pail contents being buried daily in shallow trenches and the waste water collected in a small tank, from which it is pumped each evening and disposed of by surface irrigation. The total population of the administrative county is estimated at about 141,300 and the number of school children at 24,500. Unless children are practically five years old they are not admitted to school. The schools of the county have for purposes of inspection been divided into two groups, one group being assigned to each of the two assistant medical officers. There are as yet no school nurses, and their absence is felt administratively. 3144 children have been examined and of these 12·7 per cent. were reported to be free from disease or defect, while it was found necessary to give directions to the parents or guardians of 84 per cent. of the children examined. 2 per cent. were found to be insufficiently clothed, pediculi or nits were found in the hair of 22 per cent., and 55 per cent. had defective teeth. *As regards defective teeth, it is reported* that an altruistic dental surgeon at Abingdon has offered to treat gratuitously cases sent to him by the parents. Here there is one of the great problems of medical treatment already [illegible] solution [illegible] and 21 [illegible] children whose vision was tested, 73·9 per cent. were normal as regards both eyes. *25 children were mentally defective,* and use has been made of the Defective and Epileptic Children Act, which has been adopted in the county. Very few cases of lung disease were found. There were one case of pulmonary tuberculosis and 51 instances of enlarged thyroid.

East Suffolk Education Committee.—Dr. George I. T. Stewart, in describing the method of inspection adopted, reports that the mouths and throats of the children are examined by means of a gardener's wooden label five inches long, one label being used for each child. The presence or absence of adenoids in the naso-pharynx is estimated by the general condition of the child as to the shape of the mouth and chest, the condition of the tonsils, and the frequency of bronchitic attacks, *digital examination for the presence of* these growths being made only in difficult cases and with the consent of the parents. This is probably a wise precaution at the first examination, as any infliction of pain upon the children would be likely to lead to a loss of confidence and perhaps opposition to inspection. Dr. Stewart has, for instance, found that the information obtained is greater when the inspection is conducted with several children present in the room, as in this fashion the children see that no pain is inflicted. Actual objection to medical inspection is evinced, the report states, by two classes. In the first place, there are the comparatively well-to-do parents who resent official interference on the ground that they have a medical attendant of their own; in the second place, there are the parents of neglected children who dread *what medical inspection may reveal.* There have been 4222 children examined. In 120 cases nutrition was below normal; in 21 per cent. there were pediculi. In 2605 cases there was dental caries and in 1537 there were enlarged *tonsils or adenoids. Operations for these defects are,* Dr. Stewart reports, rare owing to the belief that the children will "grow out" of the defects, and he states that children attend school irregularly more frequently from constantly *recurring attacks of tonsillitis and bronchitis than from any other cause.* Enlarged thyroid was found in 10 cases and defective hearing in 178 cases. There was some defect of speech in 48 cases, and in 43 additional instances *defect of speech was found to be due to deficient use* of the muscles of the lip, cheeks, and tongue, leading to slovenly partial guttural utterance. In many cases where the children showed indistinctness of articulation it was found that the mother owing to oral sepsis, lack of teeth, or a badly fitting plate was the cause of the child's defects by unconscious mimicry. Of 150 children examined as to their mental condition it was found that a third would improve more rapidly if instructed at a special school where manual training forms an essential element in teaching, and Dr. Stewart thinks that it would be well to provide for them a forest or garden colony. Chronic bronchitis has been found to affect school attendances very largely, [illegible] malady lead to a belief that th[illegible] But Dr. Stewart found no signs [illegible] cases which were examined.

Borough of Guildford Education Authority.—Dr. R. W. C. Pierce, whose report as medical officer of health of this borough is dealt with in another column, reports that as the air in several of the schools produces the impression of "stuffiness" to one entering from the fresh air, he proposes to estimate the amount of carbonic acid gas as a means of ascertaining the impurities, and he finds that many of the class-rooms have permanent means of ventilation on one side only. He has advised that all the Tobin's tubes should be periodically cleansed. The lighting in several of the schools is defective, and arrangements for drying the cloaks and coats of the children are found in a few schools only. (We wonder whether such provisions are to be found in many of the schools for the richer classes.) The actual medical inspection of the children is carried out by a medical inspector, who reports direct to the school medical officer, Dr. Pierce; no school nurse has yet been appointed. *No treatment has been undertaken by the education committee,* and the services of the usual medical adviser or attendance at the county hospital has apparently sufficed, *except in the case of ringworm and skin diseases, for which affections it is the practice of the parents to seek relief from* the druggists or to use some domestic nostrum which is valueless. Clearly the appointment of a school nurse is called for.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8524 births and 5397 deaths were registered during the week ending April 17th. The annual rate of mortality in these towns, which had declined from 22·1 to 17·0 per 1000 in the five preceding weeks, rose again to 17·1 in the week under notice. During the 13 weeks of last quarter the death-rate averaged 18·8 per 1000, while in London during the same period the mean rate was 19·6. The lowest recorded annual death-rates in these towns last week were 8·3 in King's Norton, 8·9 in Leyton, 10·4 in Hornsey, and 10·7 in Willesden; the rates in the other towns ranged upwards to 23·3 in Oldham, 24·8 in Bootle, 27·1 in Tynemouth, and 28·3 in Great Yarmouth. In London the recorded death-rate during the same week was equal to 17·3 per 1000. The 5397 deaths from all causes in the 76 towns last week showed an increase of 33 over the number in the preceding week, and included 584 which were referred to the principal epidemic diseases, against 573 and 593 in the two preceding weeks; of these 584 deaths, 321 resulted from measles, 130 from whooping-cough, 47 from diphtheria, 40 from diarrhœa, 31 from scarlet fever, and 15 from "fever" (principally enteric), but not any from small-pox. The 584 deaths from these epidemic diseases in the week under notice were equal to an annual rate of 1·9 per 1000, against 1·8 and 1·9 in the two preceding weeks; in London the recorded rate from these diseases was equal to 2·1 per 1000. No death from any of these epidemic diseases was registered last week in Gateshead, Birkenhead, Halifax, Northampton, Huddersfield, or in eight other smaller towns; the annual death-rates therefrom ranged upwards, however, in the other towns to 3·7 in Smethwick, 5·3 in Bootle, 6·5 in Warrington, and 6·6 in St. Helens. The fatal cases of measles in the 76 towns, which had declined from 438 to 327 in the four preceding weeks, further fell to 321 in the week under notice, but caused death-rates ranging upwards to 3·0 in Sheffield, 3·6 in Warrington, 3·7 in Smethwick, 5·3 in Bootle, and 6·0 in St. Helens. The deaths from whooping-cough, which had been 103 and 107 in the two preceding weeks, further rose last week to 130 and exceeded the number in any previous week of the year; the highest death-rates from this disease in the week under notice were 1·3 in Croydon, 2·6 in Preston, and 2·9 in Grimsby. The 47 fatal cases of diphtheria showed a decline from recent weekly numbers, and included 16 in London and its suburban districts, five in Manchester, three in Rhondda, and two each in Southampton and Stockport. The 40 deaths from diarrhœa slightly exceeded the number in the previous week, and caused death-rates to 1·2 in Aston Manor and 1·5 in Burnley. The fatal cases of scarlet fever, which had been 41 and 47 in the two preceding weeks, declined again to 31 in the week under notice, the highest death-rates from this cause being 1·4 in Warrington. The 15 deaths referred to "fever" showed a decline of seven from the number in the preceding week, and included three each in London and in Liverpool, and two each in Southampton and in Manchester. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had declined from 2873 to 2418 at the end of the six preceding weeks, had further decreased to 2294 on Saturday, April 17th; 244 new cases were admitted during the week, against 327, 273, and 256 in the three preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had decreased from 758 to 310 in the five preceding weeks, rose again to 341 in the week under notice, and exceeded by 16 the corrected average number in the corresponding week of the five years 1904–08. The deaths in London directly referred to influenza, which had been 137, 108, and 62 in the three preceding weeks, further fell to 43, but were 16 above the corrected average number. The causes of 52, or 1·0 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bristol, West Ham, Newcastle-on-Tyne, Hull, Nottingham, Leicester, Salford, and in 47 other smaller towns; the 52 uncertified deaths included 11 in Birmingham, 11 in Liverpool, and four in Manchester.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had declined from 21·6 to 17·7 per 1000 in the five preceding weeks, rose again to 18·4 in the week ending April 17th. During the 13 weeks of last quarter the annual death-rate in these eight towns averaged 19·5 per 1000, and exceeded by 0·7 per 1000 the rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rates in the week under notice ranged from 8·5 in Leith and 17·5 in Aberdeen to 19·4 in Dundee and 22·0 in Perth. The 656 deaths from all causes registered in the eight towns last week showed an increase of 22 over the number in the preceding week, and included 98 which were referred to the principal epidemic diseases, against 78 and 90 in the two preceding weeks; of these 98 deaths, 58 resulted from whooping-cough, 18 from diarrhœa, seven from diphtheria, six from scarlet fever, five from measles, and four from enteric fever, but not any from small-pox. These 98 deaths from epidemic diseases were equal to an annual rate of 2·7 per 1000, which was 0·8 per 1000 above the mean rate during the same week from these diseases in the 76 English towns. The fatal cases of whooping-cough in the eight Scotch towns, which had been 47 and 55 in the two preceding weeks, further rose to 58 in the week under notice, and included 44 in Glasgow, five in Edinburgh, four in Greenock, two in Paisley, and two in Perth. The deaths from diarrhœa, which had been 14 and 13 in the two preceding weeks, rose again last week to 18, of which 11 occurred in Glasgow and five in Aberdeen. The fatal cases of diphtheria, which had been six and nine in the two previous weeks, declined again to seven last week, and included four in Glasgow and two in Paisley. The deaths from scarlet fever, which had declined from six to three in the four preceding weeks, rose again to six in the week under notice, and included four in Glasgow. The five fatal cases of measles exceeded the numbers in other recent weeks, and included four in Paisley. The four deaths from enteric fever corresponded with the number in the previous week and were all registered in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had declined from 187 to 108 in the four preceding weeks, rose again to 135 in the week under notice, and were 14 in excess of the number in the corresponding period of last year. The causes of 16, or 2·4 per cent., of the deaths registered in the eight towns last week were not certified; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had declined from 29·3 to 25·5 per 1000 in the four preceding weeks, rose again to 27·7 in the week ending April 17th. During the 13 weeks of last quarter the death-rate averaged 25·7 per 1000, whereas the mean rate during the same period did not exceed 19·6 in London and 18·1 in Edinburgh. The 212 deaths of Dublin residents from all causes during the week under notice exceeded by 17 the number in the preceding week, and included 21 which were referred to the principal epidemic diseases, against 20 and 17 in the two preceding weeks. These 21 deaths were equal to an annual rate of 2·7 per 1000, the rate from the epidemic diseases during the same week being 2·1 in London and 0·9 in Edinburgh. Of the 21 deaths from these epidemic diseases in Dublin last week, 11 resulted from whooping-cough, five from measles, two from diarrhœa, and one each from scarlet fever, diphtheria, and "fever," but not any from small-pox; the deaths from whooping-cough exceeded the number in any previous week of the year, while those from measles showed a slight decline from recent weekly numbers. The 212 deaths registered during the week included 37 of infants under one year of age and 60 of persons aged upwards of 60 years, these numbers being respectively two below and eight above the corresponding numbers in the previous week. Six inquest cases and four deaths from violence were registered; and 72, or 34·0 per cent., of the deaths occurred in public institutions. The causes of five, or 2·4 per cent., of the deaths in Dublin last week were not certified either by a registered medical practitioner or by a coroner; in London all but two of the 1606 deaths were duly certified, while in Edinburgh the causes of 2·5 per cent. of the deaths were uncertified.

VITAL STATISTICS OF LONDON DURING MARCH, 1909

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1909	NOTIFIED CASES OF INFECTIOUS DISEASE											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES											Deaths from all causes	Death rate per 1000 living	Deaths of infants under one year to 1000 births
		Small pox	Scarlet fever	Diphtheria.*	Typhus fever	Enteric fever	Other continued fevers	Puerperal fever	Erysipelas	Cerebro-spinal meningitis	Total	Annual rate per 1000 persons living	Small pox	Measles	Scarlet fever	Diphtheria *	Whooping cough	Typhus fever	Enteric fever	Other continued fevers	Diarrhoea	Total	Annual rate per 1000 persons living			
LONDON ..	4 833,938	5	1496	722	1	95	2	23	381	24	2749	5·9	1	533	40	85	198	—	17	—	59	933	2·0	9919	21·4	120
West Districts																										
Paddington	151 955	—	51	14	—	1	—	—	8	1	75	5·1	—	3	1	—	7	—	—	—	1	12	0·8	317	21·4	129
Kensington	183 683	—	30	20	—	6	—	1	9	—	66	3·7	—	15	1	6	5	—	1	—	1	29	1·6	394	22·4	125
Hammersmith	125 704	—	27	15	—	1	—	—	7	—	50	4·1	—	4	1	3	7	—	1	—	1	17	1·4	274	22·7	132
Fulham	176 406	—	28	46	—	3	—	3	12	1	93	5·5	—	9	1	7	10	—	—	—	2	29	1·7	280	16·0	115
Chelsea ..	75,249	—	31	9	—	2	—	1	3	—	46	6·4	—	10	1	3	3	—	—	—	—	17	2·4	187	25·9	115
City of Westminster	168 883	1	43	27	—	3	—	—	8	—	82	5·1	1	4	1	—	3	—	1	—	1	11	0·7	322	19·9	112
North Districts																										
St. Marylebone	126 027	—	25	13	—	4	—	—	11	2	55	4·6	—	13	1	2	3	—	—	—	1	20	1·7	283	23·4	82
Hampstead	94 185	—	28	4	—	—	—	—	3	1	36	4·0	—	2	—	1	4	—	—	—	—	7	0·8	107	11·8	97
St. Pancras	237 422	—	75	33	—	4	—	3	14	—	129	5·7	—	42	3	7	4	—	1	—	5	62	2·7	505	22·2	128
Islington	351 202	—	96	54	—	15	—	3	25	2	195	5·8	—	54	3	5	18	—	3	—	3	86	2·6	781	23·2	137
Stoke Newington	54 423	—	23	2	—	2	—	2	2	—	31	5·9	—	5	2	—	4	—	1	—	—	12	2·3	96	18·4	87
Hackney	237 601	1	62	35	—	6	—	1	23	—	128	5·6	—	10	1	3	10	—	—	—	—	24	1·1	410	18·0	96
Central Districts																										
Holborn	53 802	1	7	3		3	—	—	1	—	15	2·9	—	2	—	—	—	—	1	—	—	3	0·6	117	22·7	76
Finsbury	95 289	—	34	11	—	—	—	1	9	1	56	6·1	—	7	—	—	7	—	—	—	1	15	1·6	266	29·1	129
City of London	18 193	—	5	3	—	—	—	—	—	—	8	4·6	—	1	—	—	1	—	—	—	—	2	1·1	51	29·2	91
East Districts																										
Shoreditch	114 802	—	35	21	—	3	—	1	10	1	71	6·4	—	18	1	4	16	—	—	—	4	43	3·9	313	28·4	127
Bethnal Green ..	131 316	—	31	20	—	5	1	—	14	2	73	5·8	—	13	3	—	6	—	—	—	2	24	1·9	285	22·6	107
Stepney ..	312 525	—	129	66	1	3	—	—	31	1	231	7·7	—	24	6	8	6	—	—	—	7	51	1·7	607	20·3	115
Poplar ..	171 965	—	63	24	—	3	—	1	15	2	108	6·5	—	22	3	1	8	—	—	—	6	40	2·4	373	22·6	168
South Districts																										
Southwark ..	211 125	1	41	40	—	6	—	—	27	4	119	5·9	—	35	1	5	3	—	1	—	6	51	2·6	513	25·3	150
Bermondsey ..	127 569	—	55	12	—	3	—	1	24	—	76	6·1	—	69	—	—	8	—	2	—	1	80	6·5	346	28·3	160
Lambeth	324 188	—	71	43	—	4	—	2	16	4	140	4·5	—	22	3	9	21	—	2	—	2	59	1·9	732	23·5	116
Battersea	186 036	—	66	27	—	2	—	2	16	—	113	6·3	—	21	1	5	15	—	1	—	1	44	2·5	344	19·3	146
Wandsworth	297 646	—	92	46	—	9	—	—	21	1	169	5·9	—	47	2	6	16	—	—	—	4	75	2·6	595	20·8	107
Camberwell ..	283 022	—	91	44	—	2	—	1	26	1	165	6·1	—	35	2	3	6	—	—	—	2	48	1·8	587	21·6	121
Deptford	118 583	—	30	22	—	3	—	—	18	—	73	6·4	—	18	—	3	3	—	1	—	—	25	2·2	229	20·1	104
Greenwich	111 014	—	36	16	—	—	—	—	9	—	61	5·7	—	7	—	—	1	—	—	—	2	10	0·9	174	16·3	129
Lewisham	160 749	1	84	23	—	1	—	—	9	—	118	7·7	—	3	1	—	3	—	1	—	4	12	0·8	219	14·2	79
Woolwich	133 374	—	127	29	—	—	—	—	10	—	166	13·0	—	18	1	4	—	—	—	—	2	25	2·0	217	17·0	84
Port of London ..	—	—	—	—		1	1	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup

that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 5·9 per 1000 of the population, estimated at 4,833,938 persons in the middle of the year; in the three preceding months the rates were 7·6, 7·2, and 6·4 per 1000 respectively. The lowest rates last month were recorded in Kensington, Hammersmith, Hampstead, Holborn, and Lambeth; and the highest rates in Chelsea, Shoreditch, Stepney, Poplar, Deptford, Lewisham, and Woolwich. The five cases of small-pox exceeded the numbers notified in other recent months and belonged respectively to the City of Westminster, Hampstead, Holborn, Southwark, and Lewisham. Scarlet fever continued to show a declining prevalence last month; among the various metropolitan boroughs this disease was proportionally most prevalent in Chelsea, Stoke Newington, Stepney, Lewisham, and Woolwich. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals,. which had been 3498, 3147, and 2766 at the end of the three preceding months, had further declined to 2412 at the end of last month; the weekly admissions averaged 278, against 371, 343, and 283 in the three preceding months. Diphtheria was slightly less prevalent during March than in either of, the two preceding months; the greatest proportional prevalence of this disease was recorded in Fulham, Shoreditch, Stepney, Southwark, Deptford, and Woolwich. The Metropolitan Asylums Hospitals contained 1103 diphtheria patients at the end of last month, against 953, 1182, and 1152 at the end of the three preceding months; the weekly admissions averaged 121, against 143, 136, and 133 in the three preceding months. Enteric fever was again less prevalent than in other recent months; the greatest proportional prevalence of this disease last month was recorded in Kensington, St. Marylebone, Islington, Stoke Newington, Holborn, Bethnal Green, and Wandsworth. The Metropolitan Asylums Hospitals contained 87 enteric fever patients at the end of last month, against 147, 126, and 124 at the end of the three preceding months; the weekly admissions averaged nine, against 16, 18, and 17 in the three preceding months. Erysipelas was proportionally most prevalent in Hackney, Finsbury, Bethnal Green, Stepney, Southwark, and Bermondsey. The 23 cases of puerperal fever notified during the month included three each in Fulham, St. Pancras, and Islington, and two each in Stoke Newington, Lambeth, and Battersea. The 24 cases notified as cerebro-spinal meningitis included four each in Southwark and Lambeth, and two each in St. Marylebone, Islington, Bethnal Green, and Poplar.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the five weeks ending April 3rd the deaths of 9919 persons belonging to London were registered, equal to an annual rate of 21·4 per 1000; in the three preceding months the rates were 14·3, 16·4, and 18·5 respectively. The death-rates last month ranged from 11·8 in Hampstead, 14·2 in Lewisham, 16·3 in Greenwich, 16·6 in Fulham, 17·0 in Woolwich, and 18·0 in Hackney, to 25·3 in Southwark, 25·9 in Chelsea, 28·3 in Bermondsey, 28·4 in Shoreditch, 29·1 in Finsbury, and 29·2 in the City of London. The 9919 deaths from all causes included 933 which were referred to the principal infectious diseases; of these, one resulted from small-pox, 533 from measles, 40 from scarlet fever, 85 from diphtheria, 198 from whooping-cough, 17 from enteric fever and 59 from diarrhœa, but not any from typhus fever or from ill-defined pyrexia. The lowest death-rates from these diseases were recorded last month in Paddington, the City of Westminster, Hampstead, Holborn, Greenwich, and Lewisham; and the highest rates in St. Pancras, Islington, Shoreditch, Southwark, Bermondsey, Battersea, and Wandsworth. The 533 fatal cases of measles were as many as 293 above the corrected average number for the corresponding period of the five preceding years; the greatest proportional mortality from this disease last month occurred in St. Pancras, Islington, Shoreditch, Southwark, Bermondsey, and Wandsworth. The 40 deaths from scarlet fever were four fewer than the corrected average; of these 40 deaths, six occurred in Stepney, and three each in St. Pancras, Islington, Bethnal Green, Poplar, and Lambeth. The 85 fatal cases of diphtheria exceeded the corrected average number by ten; the highest death-rates from this disease last month were recorded in Kensington, Fulham, Chelsea, St. Shoreditch, and Woolwich. The 198 deaths from cough were 18 below the corrected average number corresponding period of the five preceding years; the proportional mortality from this disease occurred in Newington, Finsbury, Shoreditch, Bermondsey, Battersea. The 17 fatal cases of enteric fever were the corrected average number,; these 17 deaths included in Islington, two in Bermondsey, and two in Lambeth. The 59 deaths from diarrhœa showed a decline of 12 the corrected average number; this disease was tionally most fatal in St. Pancras, Shoreditch, Poplar, Southwark, and Lewisham. The fatal case of pox belonged to the City of Westminster. In it may be stated that the aggregate mortality in last month from these principal infectious diseases was per cent. above the average.

Infant mortality, measured by the proportion of among children under one year of age to registered was equal to 120 per 1000. The lowest rates of mortality were recorded in St. Marylebone, Stoke Holborn, the City of London, Lewisham, and W and the highest rates in Hammersmith, Islington, Poplar, Southwark, Bermondsey, and Battersea.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeon G. T. Collingwood to the *Racer*, additional, for Royal College, Osborne; J. Sugrue to the *President*, additional, Royal Marines, Recruiting Headquarters; J. Lloyd-Thomas the *Eagle;* W. E. Home to the *Dædalus;* P. M. Maye to *Vengeance* and to the *Trafalgar*, on becoming parent ship C. J. Mansfield to the *Formidable*, on commissioning. Staff Surgeons: E. Folliott to the *Forte;* C. B. Fairbank to the *Victorious*, on recommissioning; E. T. Burton to the *Egmont*, additional, for Malta Dockyard; and W. K. Hopkins to the *Talbot*, on recommissioning. Surgeons: E. R. L. to the *Crescent*, additional, for the *Edgar*, temporarily; G. D. Bateman to the *Formidable*, on commissioning; G. Bradshaw to the *Hindustan;* R. Kennedy to the *Forte*, completing; and L. M. Morris to the *Blenheim*, temporarily

ROYAL ARMY MEDICAL CORPS.

Surgeon-Major Samuel G. Moores, from the Scots Guards to be Major (dated April 17th, 1909).

Lieutenant-Colonel R. I. D. Hackett and Lieutenant-Colonel H. I. Barrett will exchange positions on the foreign service roster. Captain J. B. Meldon, from Bangalore, has been appointed to the Dublin District. Major C. C. Fleming D.S.O., will take up the appointment of instructor at the Royal Army Medical Corps School, Aldershot, in June, Major J. D. Ferguson, D.S.O.

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd Northern General Hospital: Surgeon-Captain Arthur Longley Whitehead, from the 1st West Riding Brigade Royal Field Artillery, to be Captain and to be an officer whose services will be available on mobilisation, retaining his seniority as in the Royal Field Artillery, Territorial Force (dated Feb. 25th, 1909).

For attachment to Units other than Medical Units.—Major John W. Ellis to be Lieutenant-Colonel (dated June 15th, 1908). Thomas Hillhouse Livingstone to be Lieutenant (dated March 1st, 1909). Cecil Johnson to be Lieutenant (dated March 23rd, 1909.

THE ALEXANDER MEMORIAL PRIZE.

The Alexander Memorial Prize, consisting of £50 and a gold medal, is awarded every third year to the writer of the best essay on a subject connected with military medicine, surgery, or hygiene. The competition is open to executive officers of the Royal Army Medical Corps on full pay, with the exception of the professors and assistant professors of the Royal Army Medical College during their period of office. No prize has been awarded for the triennial period ending Dec. 31st, 1908. The subject for the next prize essay is the following: "Tropical Abscess of the Liver." The subject may be treated either from a clinical or etiological standpoint and the essay must bear evidence of original observations. No essays should exceed 20,000 words, exclusive of tables, which may be added as appendices. Essays should be sent in to the secretary of the Prizes Committee, Royal Army Medical College, on or before Dec. 31st, 1911. Each essay is to have a motto and to be accompanied by a sealed envelope bearing the same motto and containing the name of the competitor.

SANITARY SERVICE (R.A.M.C.) DINNER.

The officers of the Sanitary Service of the Royal Army Medical Corps will dine at the Hôtel Métropole on Saturday, May 8th. The Right Hon. R. B. Haldane, M.P., Secretary of State for War; General Sir W. G. Nicholson, Chief of the General Staff: Surgeon-General Sir A. H. Keogh, Director-General, A.M.S.; and Lieutenant-General Sir W. H. Mackinnon, Director-General of the Territorial Forces, are the guests.

THE NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund held on April 20th, Sir O. J. Thomas, K.C.B., in the chair, the sum of £55 was distributed among the several applicants.

Correspondence.

"Audi alteram partem."

AN AMBULANCE SERVICE FOR THE METROPOLIS.

To the Editor of THE LANCET.

SIR,—May I be permitted, as having had some considerable acquaintance with this subject, to endorse the plea in your leading article that to medical men the great thing at present is action by the Home Office in some direction. During 21 years' service as one of the divisional surgeons to the Metropolitan Police I had ample opportunities of seeing the need for such a service, having been obliged, sometimes at night, to send patients with broken limbs three or four miles to Guy's or St. Thomas's Hospitals in a four-wheeler—not exactly an ideal conveyance for a suffering patient.

Personally I must confess that I am unable to see how the coöperation of either the Metropolitan Asylums Board or the London County Council is essential. All the Metropolitan force as they join the ranks are now, I am informed, trained to render first aid, and on the occurrence of illness or accident in the streets they are authorised and directed to call in the nearest medical man to their aid if the divisional surgeon should be too far off. Liverpool has for a number of years had an admirable ambulance service organised by the police alone, and in recent years Captain Nott-Bower, who had experience of the Liverpool system before he was appointed Commissioner of the City of London Police, has got a similar service into working order there. What Liverpool and the City have done, Scotland Yard might surely be trusted to do with two such excellent models before it if only the Home Office would authorise the purchase of ambulances.

I am, Sir, yours faithfully,

H. NELSON HARDY,

President, United Kingdom Police Surgeons' Association.

London, April 19th, 1909.

THE ETIOLOGY OF ACNE.

To the Editor of THE LANCET.

SIR,—May I trespass upon your space for some remarks on Dr. A. Fleming's valuable paper on the etiology of acne in your issue of April 10th? Dr. Fleming's contention that the micro-bacillus is the cause not only of the comedo but of the suppuration of acne is based on the following reasons: (1) it is constantly present in the films made from the pus; (2) it is frequently the only organism present in the pus; (3) it can frequently be recovered from the pus in pure culture; (4) inoculated into a susceptible individual it produced a pustular folliculitis, and examination of the pus showed no other organisms to be present; (5) inoculated into animals it produces an abscess from which the bacillus has been recovered in pure culture (Gilchrist); (6) the serum of patients affected with acne agglutinates the bacillus in some cases; (7) the opsonic indices of patients to the acne bacillus vary considerably from the normal; (8) large doses of a vaccine made from the acne bacillus induce a marked negative phase characterised by the appearance of fresh pustules from which the organism has been recovered in pure culture; (9) a vaccine of this organism has a marked beneficial effect on the condition; and (10) when a patient has a high opsonic index to the bacillus his condition improves, but when the opsonic index is low fresh pustules appear.

Now these results appear at first sight to be sufficient proof of the causal relationship of the bacillus to the suppuration of acne, but careful consideration will, I think, throw some doubt upon this conclusion. I may begin by quoting again a valuable principle laid down by Sabouraud—namely, that where an organism is found in luxuriant growth in the skin, that organism is producing its noxious effects, if any. I think it is sufficiently obvious that we must either admit the validity of this statement or throw overboard bacteriology in pathological research. Now it is admitted by all that if we examine the comedo in its *non-inflamed* state we find the micro-bacillus present in the most luxuriant growth. I have never examined a comedo without finding this (putting aside the grouped comedo of infants), and I have therefore agreed with Sabouraud that the micro-bacillus is the cause of the comedo. Acting as a mild irritant to the neck of the follicle it causes repeated attempts to be made by the epithelium to encyst it with the resultant characteristic onion-like formation. So far I think Dr. Fleming will agree with me.

Now as regards the suppuration it might be contended that only in certain persons is the micro-bacillus a pyogenic organism, but this is not the correct explanation for the following reason. If we take comedones surrounded by *no* inflammatory or pustular reaction from patients the subject of pustular acne we find this abundant growth of the micro-bacillus present in the non-inflamed comedo. So that we are driven, if we accept the pyogenic nature of the micro-bacillus, to say not that it is pyogenic in some persons, but that it is pyogenic in some lesions.

Years ago when working at this subject I examined a very large number of acne lesions both by the film method and by sections, and I came to the conclusions expressed in my book and quoted by Dr. Fleming. I have also examined for some years the pus from all private cases of acne and have only on very few occasions failed to demonstrate the staphylococcus in films. Recently I had a case in which I found no staphylococci present in films, but on excising a pustule I found them present in colonies near the wall of the little abscess. By cutting horizontal sections in this case I was able to demonstrate in one section two follicles so close together that both could be seen in one field of a one-inch objective, one suppurating with a central comedo and micro-bacilli and staphylococci in the pus when viewed with a high power, the other without the slightest leucocytic or other inflammatory reaction yet stuffed with micro-bacilli.

Turning now to Dr. Fleming's reasons, Numbers 1, 6, 7, 8, 9, 10 agree equally well with the bacillus as a cause of comedo. As regards 8, the causation of pustulation by the injection of bacillary vaccine, I have turned an ordinary microsporon ringworm of the scalp into a kerion on more than one occasion by the injection of ringworm vaccine, and am inclined to think that there is a future for this as a method of cure. Statement number two, that the bacillus is frequently the only organism present in the pus, I am convinced from an extremely extensive experience is inaccurate. The position of the staphylococci in the pus nearest the wall may account for the cultivation of the bacillus in pure culture on some occasions, and it is to be remembered that the suppuration is very indolent as a rule and that there are comparatively few staphylococci present. In the more actively suppurating lesions staphylococci are much more numerous. As regards animal experiment (No. 5), it is

was not the same

showed no in-

week.

n by Sir Almroth

ociety of London

om the severest

form of acne for many years, but on careful treatment with

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[1] British Journal of Dermatology, 1904, p 206.

staphylococcic vaccine the whole of the suppuration had disappeared, leaving his face studded with non-inflamed comedones. The ultimate pathology of acne is, in my opinion, still unknown, and will probably be found to lie in some form of toxæmia, but I am convinced that it is a retrograde step to look upon it as a specific infective disease caused by this one very ubiquitous organism.

I am, Sir, yours faithfully,
April 14th, 1909. ARTHUR WHITFIELD.

AMPUTATION THROUGH THE HIP-JOINT.

To the Editor of THE LANCET.

SIR,—In the two cases of amputation through the hip-joint reported in THE LANCET of April 3rd by Mr. E. W. Roughton and Mr. T. P. Legg, I notice that the femoral artery and vein were first tied, but it is not stated whether any interval was made between the ligature of the artery and vein. In March of last year I had to operate at the Government Hospital for an enormous sarcoma of the femur. I first tied the femoral artery, and then, after an interval of about three minutes with the limb elevated, ligatured the vein. My idea was that the blood in the limb would thus to a great extent drain back into the patient's body and thus be instrumental in preventing shock. The same principle is involved in the use of the Esmarch bandage, but, of course, in a case of malignant disease this would be out of the question. Wyeth's pins were then introduced and the operation completed in the usual way. The pulse, which was 120 before operation, rose to 130 after completing the disarticulation. A saline and brandy enema was then administered, and before the patient left the theatre his pulse had sunk again to 118 and was of good volume and tension. From the point of view of shock, therefore, the operation was very satisfactory. The patient's recovery was rapid, the wound healing by primary union, but as he has never been seen since his discharge from hospital I cannot say whether recurrence ever took place. Mr. Legg says: "When amputation through the hip-joint is done for periosteal sarcoma of the femur the muscles should be cut as closely as possible to their pelvic attachments; this is impossible in Wyeth's method." This may be so, but I would venture to suggest that whatever method be adopted (direct abdominal pressure, Wyeth's pins, &c.) the blood in the limb should be first drained into the body in the manner I have indicated. The importance of ligating artery first and vein later after an interval may be well recognised by operating surgeons, but I do not think the point is sufficiently emphasised in the average text-book.

I am, Sir, yours faithfully,
A. WEBB JONES, F.R.C.S. Eng.,
Surgeon, Government Hospital, Alexandria.
Alexandria, Egypt, April 11th, 1909.

THE INTERNAL ANTISEPTIC TREATMENT OF INFLUENZA.

To the Editor of THE LANCET.

SIR,—From time to time we find antiseptics given internally for various diseases, but no one, to the best of my knowledge, has ever advocated a systematic and universal use of the same. I will deal with the simple treatment of influenza. It has been stated by five or six eminent men that there is no preventive treatment for this disease. I find it impossible to agree with this, as proved in numerous cases and from personal experience. Quinine has been advocated, but it often fails. Failures are turned into successes if carbolic acid is given with it. This is a prescription which I think curative as well as preventive:—

℞ Quin. disulph. gr. ii.,
Ac. carbolic. (pur.), glycerini aa gr. iss.,
Ac. hydrobromic dil. ʒi.,
Tr. hydrast aquos ʒi.,
Aq. ad ℥viii. ft. mist

Sign. An eighth part three times a day, one hour after food. If case is severe every three hours, one hour after food.

No doubt the small dose of quinine will cause some to smile, but the old saying about "the proof of the pudding" applies in this case, and as this dosage has been given for so many years and in some thousands of cases with a death-rate of about 1 per 1000, I have excellent reason to believe in it. Moreover, large doses often defeat the end in view. Some lung cases, and those that have been weakened by salicylates, do better for a time with a prescription of ammon. carb., glycerine acid. carbolic., and tinctura cinchon. co. The old system of profuse sweating in influenza is most mischievous and often leads to lung complications and a long convalescence. Everyone is agreed that rest, warmth, and good, light, nourishing food, with fresh air, are correct treatment. I condemn strongly the use of salicylate of sodium or any other preparation of salicylic acid in influenza; they seem to relieve but at the expense of the bodily strength, especially the heart, and, as a rule, convalescence is prolonged after their use. Alcohol is injurious and can only be permitted sometimes and with careful watching in pneumonia after influenza. Nitrate of potash, vinum antimoniale, and tinctura aconiti are, in my opinion, drugs that ought to be consigned to the scrap-heap. The heart power must be kept up and it may be necessary to add strophanthus or digitalis to the mixture, but not in large doses. There are many patients with chronic debility after influenza who for months or even years have tried all sorts of tonics and change of air with very often but little improvement. I have seen many in Bournemouth and have found that the quinine mixture always puts them right in a short time. Special treatment is not required for the pains in the head and limbs in influenza, as the great point to bear in mind is that these varying symptoms are simply manifestations of one and the same toxin that has veritable protean possibilities, and must be eliminated by its proper antidote, which I have mentioned.

I am, Sir, yours faithfully,
Leeds, April 6th, 1909. F. W. CORY

*** Mr. Cory's note is intended to support the general use of antiseptics internally, but we doubt if the argument will be considered a very strong one. But a prescription which has proved of practical use has always some claims to publication.

THE PROXIMATE FACTOR OF DELIRIUM TREMENS.

To the Editor of THE LANCET.

SIR,—In his letter to THE LANCET of *April 17th*, Mr F. S. D. Hogg, referring to continuous and periodic drunkards, states that "the latter are just as liable *to suffer* from delirium tremens as are the former." I am loth to believe that this is a considered pronouncement on his part. It is not in accordance with generally received views, and it is entirely opposed to my own experience at the Norwood Sanatorium. In every case which occurred in that institution in past years, the patient was a continuous drinker; no purely periodic drunkard ever suffered. The majority were patients who rarely became intoxicated and then but slightly so; some had not been intoxicated for years. The latter are not, strictly speaking, drunkards at all; they have established a high grade of *tolerance of alcohol* and can only be said to suffer from chronic alcoholism. Such are strictly comparable to chronic morphinists, who, through long persistence in their habit, have eventually succeeded in establishing a high grade of tolerance of morphia, and the results of sudden withdrawal are in both cases analogous. Of course, there are chronic alcoholists who suffer from recurrent inebriety also, and these are equally prone to develop delirium on sudden withdrawal. But here the primary factor of the complication is the chronic, not the intermittently exaggerated, drinking. It is true, however, that a drunken outburst in one who habitually takes large quantities of alcohol without becoming intoxicated does often lead him, in a fit of remorse, to become suddenly an abstainer, and in such cases the drunken fit may properly be regarded as the *indirect* factor of the delirium. But even here the *proximate* factor is the sudden abstention.

I do not suppose that Mr. Hogg intentionally suggests that the occurrence of delirium tremens at Norwood in the past was due to ignorance on my part of the well-known sedative and hypnotic influence of the bromides and chloral hydrate. As a matter of fact, practically all the cases arose in spite of the prophylactic influence of such drugs, the frequent uselessness of which was peculiarly well shown on two occasions. Bromides in massive doses were given through the day and hypnotics at bedtime. As a result several hours' satisfactory sleep was obtained (six in one case, four in the other). Yet in both the patients awoke in wild delirium. On the other hand, since it has been the rule (a period of one and a half years) to taper off the alcohol *in patients who had established tolerance*, there has been no case of delirium, nor any which suggested a fear of that complicatio [illegible] tapering is carried out bromides and [illegible] called for.

The widely diverging views which obtain as to the expediency of sudden withdrawal are, I believe, reconcilable if we keep clearly in mind the full significance of tolerance. Tolerance of alcohol (i.e., acquired tolerance) implies intolerance of sudden withdrawal. It is not acquired through heavy intermittent drinking bouts, however frequent, but only through frequent regular drinking which stops short, often far short, of the intoxication point. Those who so drink inflict on themselves gross organic tissue changes, but they are not, as a rule, an intolerable nuisance to their friends or the general public Hence I do not believe that many such find their way into licensed retreats any more than they do into the police court.

I am, Sir, yours faithfully,

Upper Norwood, April 20th, 1909. FRANCIS HARE.

CROOKED QUESTIONS AND URBANE ANSWERS.

To the Editor of THE LANCET.

SIR,—The amiable reproof which *Punch* has administered to you in a recent issue for the promulgation of alarmist views is put into the mouth of a "Paterfamilias," who is understood to ask certain "plain, blunt questions." *To some of these, notwithstanding a know*ledge of the pitfalls which a cross-examiner is able to prepare for a witness, it should not be difficult to reply, and to show, contrary perhaps to expectation, that the interrogator is right to be anxious on the different points. It is asked, in the first place, whether cocoa causes cancer? If cocoa does not agree with "Paterfamilias," and he is of the age when cancer is most prevalent, he had better avoid it. A person who dislikes cocoa may say with perfect safety that it causes cancer, for no one can contradict him, and in all probability he will find acquaintances to furnish him with "facts" in corroboration of this view. The next question put is whether tobacco "is all that it has not yet been declared to be?" and I pause before its exhaustive character. Most of the tobacco that has been analysed has been pure; but some of it has been associated with very [illegible] put any limit to the [illegible] asked whether wool [illegible] kin; and the answer depends mainly upon climatic and other conditions. Under some of these conditions either silk or cotton is to be preferred; when wool, in other conditions the best, may be the *worst of the materials commonly employed for* un[illegible] clothing. The next question is, "Does ozone [illegible] pulmonary disease?" Yes, certainly, if inhaled ir [illegible] great a degree of concentration; although, as u [illegible] present in the atmosphere, it is as harmless as the *alcohol in hot-cross buns. An inquiry* whether bread-and-milk is explosive arrests one for want of definitions. Bread may be or may contain anything if the legal penalties are disregarded; and milk has more than once been responsible for explosions of epidemic disease. It is asked next whether the daily newspaper is a source of contagious and infectious disease, and whether we ought only to read it in gloves and a respirator? No doubt the newspaper falls within the general class of fomites to which the physicians of the last century paid so much attention; and a cleanly person who entered a public library in a slum district might be thankful for gloves, even if he dispensed with the respirator. Then it is asked whether it is as beneficial to [illegible]

[illegible] this question was examined by the late Dr. W. B. Carpenter many years ago, when vegetarianism was a comparatively new idea and when its supporters claimed for themselves a special endowment of the virtues arising from a complete control of all animal passions. He showed that the extremes of ferocity and gallantry were to be found *among vegetable feeders; and he instanced* the rhinoceros and the cock as familiar examples of the facts. It may be [illegible] ole opera notion of the soldier [illegible] atory disposition, the amenity [illegible] of the "military spirit." Of this endowment there is no particular evidence among the ranks of vegetarianism more than among those of any other class.

I think that the questions put by "Paterfamilias" in the columns of *Punch* are more reasonable than many which are set by examiners for professional degrees and diplomas.

I am, Sir, yours faithfully,

April 17th. F.R.C.S.

THE DRAINAGE OF CAIRO.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

WHOLESALE CONTAMINATION OF THE SUBSOIL.—APPREHENSIONS IN REGARD TO THE DRAINAGE SCHEME.—UNFAVOURABLE SITUATION OF THE EUROPEAN QUARTER.—THE NEED OF BUILDING REGULATIONS.

Cairo.

NEXT to the question of the water-supply comes that of the drainage of Cairo. As already explained,[1] the water-supply problem stands foremost because it is a question of the present. Everybody recognises the position; it is impossible not to see that the water is sometimes full of dark coloured matter, that it stains the linen, is hard, spoils boilers and engines, in fact, that it is unsuitable for domestic and industrial purposes. The urgency of the water question is therefore obvious to all. The drainage question, however, is little less urgent.

For a quarter of a century there has been talk at Cairo of drainage schemes and nothing has resulted; therefore, it is a little difficult to realise that now at last sewers are actually going to be constructed. As the result of these numerous disappointments a widespread lack of faith still prevails. It must also be borne in mind that the vast majority of the inhabitants of Cairo have no experience whatsoever of drainage schemes and do not know what they mean. They have never been taught the benefits that result from well-conceived and properly applied systems of drainage. *They do not realise that such measures have been the means* of saving millions of human lives and of prolonging the lives of other millions. But they do know that when the subsoil of Cairo is disturbed, when excavations were made for the foundations of the new premises of, for instance, the National Bank, and for *other large buildings, there were* cases of typhoid fever in the immediate neighbourhood. Thus it happens that to-day when it is proposed to lay sewers in all the streets this prospect has created something approaching a panic. The sense of the proportion of [illegible] and many persons inquire whether the [illegible] or the sewers will create an epidemic. [illegible] possible that, in spite of the somewhat [illegible] it is proposed to take, some cases of sickness may result from the moving of foul earth. With regard, however, to an epidemic the question presents itself the other way round. It is not a matter of creating an epidemic but, on the contrary, of getting rid of the epidemics that already exist, which are so firmly established that the conditions may more accurately be called endemic. The present death-rate at Cairo is scandalous. If the statistics of some typical European town that has a proper drainage system and water-supply be taken as an example, it will be found that even when, during the course of the year, there has been an epidemic, still the mortality of such a town will be much below the normal death-rate of Cairo When the streets are dug up to lay the sewers in Cairo there may be a good many cases of disease provoked by unwholesome effluvia. It is, however, quite certain that many cases of disease connected with insanitation exist already and will continue to exist in the future whether the new trenches are dug or not. According to the last official returns published during the year 1907 there were 342 deaths from diphtheria and 141 from typhoid fever, therefore it was not necessary to open up the streets to produce these diseases. The general death-rate among the Egyptians in 1907 was 38·4 and 27·4 among the foreigners. It is not till the drainage system is completed and a well-considered general programme of sanitary reform strictly applied that this devastating death-rate will be largely reduced and a real improvement obtained.

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[1] THE LANCET, April 3rd, 1909, p. 1014.

The question in the public mind is whether, when the trenches have been dug and the sewers laid, there will be a reduction in the prevalence of preventable diseases. The scientific man can make only one answer. In the light of past experience, and going back to the time when it was not known how to build sewers properly, and when all sorts of blunders were committed, actually creating epidemics and resulting in the loss of many lives, the advantages of sewerage schemes are known to have far out-balanced the disadvantages; the sacrifice of life has been literally nothing in comparison to the salvation of life. It is impossible to have an omelette without breaking eggs, and Cairo cannot be purified without stirring up some filth. But it is better to stir up this filth and to remove it than to allow it, as at present, to continue to accumulate in volume and in foulness. As it is, Cairo has been described as a town floating on cesspools, and it was perhaps inevitable that it should continue to wallow in filth while the country remained in financial difficulties. Now, however, that Egyptian finances have been put in order we are promised that some money at least will be forthcoming to save the lives of the inhabitants. It is the duty of all sanitarians to see that the promises are carried out.

One of the leading sanitary reformers of France, the late Professor Brouardel, speaking of Toulon, described this great military port as a town built on *un sol féealien*. This definition can as appropriately be affixed to Cairo. In the first instance the natives had perhaps a better sanitary instinct. The custom that still prevails in rural districts is for the males to relieve themselves on the manure heap which is generally near the entrance of their dwellings; the females, desiring greater privacy, utilise for this purpose the roofs of their houses. In both cases nature's disinfectants, the air and the light, play upon and purify more or less that which is impure. But, and though this primitive procedure still prevails to some extent even in Cairo, its continuance has not been found practicable at least in the narrow and crowded streets. Consequently, cesspits were dug, but as it costs money and trouble to empty them they are deliberately made as porous as possible and the whole percolates into the surrounding subsoil. Thus the ground on which Cairo stands is impregnated throughout with fæcal matter and urine, together with all other sorts of foul slop water and organic substances in a state of decomposition. The purifying action of the earth is obviously overtaxed in such a densely populated centre as Cairo. The emanations from so foul a subsoil are well calculated to predispose the inhabitants to epidemic and other diseases. In the meanwhile, and till the drainage works are carried out, the only advice that can be given to persons who live in Cairo is that they should sleep in the top of their houses—that is to say, as far as possible from a soil which must be largely polluted.

Some owners of private houses and of large hotels have sought to cope with this evil by building various forms of cesspools based more or less on the septic tank principle. The manager of one fashionable hotel explained with justifiable self-congratulation how his cesspool acted so well that the effluent was quite clear, and such enterprise and public spirit deserve warm commendation. If everyone did the same the soil would not be so foul, for such a clarified overflow can be dealt with by the subsoil as the crude sewage cannot be. Besides, if a few houses and hotels do deal satisfactorily with their sewage, sewage from the rest of the town passes through the European quarter as it follows the natural flow of the subsoil water from the more elevated, more crowded, and filthy native quarters finally to reach the Nile. The natives with a true hygienic instinct have always avoided living on the banks of the Nile. They fear the floods, for if the water of the rising Nile does not actually penetrate into their houses it certainly comes up in the subsoil to within a few feet of the surface. Thus there is more damp, more miasma, and insecurity in regard to the solidity of buildings. Formerly what is now the European quarter consisted of spacious, umbrageous gardens, with but few low-roofed dwellings. To-day, and without any sort of regulation or restraint, speculators are constructing huge, lofty tenement houses dominating streets which are not wide enough in proportion to the height of the buildings. Thus they shut out the purifying light and air from above, while the atmosphere within these hot and lofty dwellings reeks of the effluvia from the soil below. It seems to all who consider the matter that by-laws regulating building operations should now be insisted upon.

Here is an experience. In a narrow yard between two big blocks of buildings I was shown the flagstones in which were the openings of vast cesspools into which both these blocks drained. At times the cesspools overflowed into the yard and the stains on the walls showed how high this concentrated sewage might reach. The inhabitants had the cesspools emptied, but this was of no use. In a few days they were full again, not with soil from the adjoining blocks but with infiltrations from the surrounding land, and when the Nile rises the cesspools overflow into the yard. The rise and fall of the Nile in the subsoil is one of the principal factors governing the whole problem. A medical practitioner related to me that he had built himself a house and thought he would dig for water. He went down some 20 feet before he could find any water. A little later, however, the Nile began to rise, and then the water in his well came up to within five feet of the surface. It is claimed that this annual inflow and outflow of the Nile in the subsoil of the lower parts of Cairo is a great benefit, for it washes away the dirt. But, on the other hand, if it does carry away some of the foulness it also helps to spread it about broadcast. The flood penetrates the cesspools and carries their contents into the surrounding subsoil. A small portion may reach the Nile, but the greater part of the contents of the cesspools is likely to be deposited in the earth, polluting the subsoil to such an extent that the inhabitants of Cairo are afraid to dig it up. Thus are engendered those apprehensions in regard to the drainage scheme which I have already mentioned.

To allay such fears an official statement has been issued by the sanitary authority and circulated in the press. We are thus informed that the trenches in the wider streets will in no case exceed the depth of five metres and in the narrower streets three metres. As these trenches are shallow they can be made very narrow, therefore the amount of earth to be disturbed and dug up will be reduced to a minimum. The authorities claim that there will not be more excavation than what actually takes place when new hotels and large houses are built. Further, to reduce the risk and to push forward the work more rapidly, there will be overhead cableways to conduct the material as soon as it is excavated to the trenches which are ready to be filled up. Any surplus matter that cannot be thus and at once dealt with will be covered with a disinfectant and carried away. What perhaps is more important, so far as the visitors are concerned, is the fact that none of this work will be done during the tourist season, for that season corresponds with the high Nile, when the water in the subsoil would interfere with such excavations.

The first object of course will be to prevent the further contamination of the subsoil by providing water-tight drains, and we may be sure that the work will throughout be as good as trouble and experience can make it. If Cairo has suffered long it at least enjoys to-day the advantage that during all this time other towns have made great experiments, have spent large sums, and have thus accumulated evidence affording many valuable object lessons for more backward localities. These indications as to what to do and what to avoid, now that the capital of Egypt is entering upon a career of sanitary reform, should prove of great practical service to its administrators and governors. From what I have seen of the drainage scheme it seems clear that considerable attention has been bestowed upon all schemes elsewhere existent. Many of these have been rejected as antiquated or as unsuitable, and much that is altogether novel is, I understand, to be introduced. Thus the plan before us is doubly interesting: first, because it proposes to render Cairo a healthy city though at present it is exceptionally unhealthy; and, secondly, because this is to be done by the application of the most modern procedures.

(*To be continued.*)

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Bristol University.

THAT the establishment of a modern university is no light task is attested by a recent report of organisations founded at the beginning of the year by the lecturers of University College, Bristol. Each of these is controlled and promoted by an organising secretary with a "nucleus" committee to be increased at discretion. The first scheme is the establishment of a unit of the Officers Training Corps. This at present hangs fire, for although there are 45 students willing to join (the necessary minimum being 30) there is uncertainty as to whether the War Office can recognise the unit before the University charter is granted. The formation of a hostel for men students is also being promoted; data have been collected which show that specially erected premises would cost too much, so that buildings already standing will have to be adapted to the purpose. Similar considerations have determined the formation of a club for men students which is now in existence. It was found that a new building would be far too expensive, so negotiations were opened with a neighbouring restaurant proprietor, with the result that on March 2nd part of his premises were declared opened as a Students' Club. Members of the University College Union are to pay 10*s.* 6*d.* per session and non-members 21*s.* For these fees the members of the club (who already number 50) will have meals at special terms, the use of a reading-room, a billiard-room, and a cloak-room, with attendance. It is proposed to have evening lectures, and it is hoped that the union committee and the proposed debating society may meet there. The Birmingham University Club has spontaneously offered to make arrangements for reciprocity of membership. The fourth organisation, an Association of Alumni, was referred to in my last letter. The committee appointed to organise athletics hopes to arrange annual matches in football, cricket, and tennis with the University of Birmingham and also between the various departments of the University.

University College: Department of Economic Biology.

In the course of an interim report to the Senate and Council of University College, Bristol, the executive committee of the Department of Economic Biology (which has been in existence [illegible] the work done. T[illegible] field trials, consu[illegible] Under the heading of research mention is made of investigations relating to fowl tuberculosis, the development and maturity of local crustacea, the geology and chemistry of the soil of cider orchards, the application of electricity to plant growth, a root disease of gooseberry and black currant bushes, a disease of mangolds, the yeasts of cider, and so on. The field trials have related to the use of calcium cyanamide as a manure, the manuring of grass land, and the inoculation of leguminous crops. The department has been consulted many times with regard to insect pests, poultry breeding, and [illegible] of these have been exhibited by request at agricultural shows. A series of lectures on fruit growing and cider making, and others on anthrax and actinomycosis, have been fairly attended. A brief account of investigations into the scientific aspects of Cheddar cheese making is given by Mr. D. Spence, Ph.D., who was appointed to this work by the department, the expenses being paid by the Somerset county council. He finds that pure cultures of bacteria may be used with advantage as "starters" in cheese making, and attributes the colouring of cheese, in part at any rate, to the action of enzymes. Other important observations have been made on the salting and fat content of cheese. The report is of great interest in that it shows how well agriculture may in the future be served by scientific research.

Bristol Eye Dispensary.

The ninety-seventh annual meeting of the supporters of this institution was held on April 6th. The report stated that the number of patients attending in 1908 had been 2408, an increase of 53 over the preceding year. The total receipts were £207 and the total expenditure was £217. An increase in the number of regular subscribers was asked for. The examination of school children has meant an appreciable increase in the number of refraction cases, and there was a general feeling at the meeting that the education authorities should not allow this work to fall upon a charitable institution. In the evening the dispensary staff exhibited a number of interesting cases to medical men who were invited. There was a good muster and this was felt to be a successful innovation.

The Barnstaple Rural District and the Local Government Board.

As already stated in THE LANCET, the Local Government Board considers that it is impossible for one sanitary inspector to be responsible for the Barnstaple rural district, and consequently insists on the appointment of an additional officer. The Barnstaple rural district council has again urged the Local Government Board to alter its decision, but the Board refused to do so, and in a communication read at the meeting of the district council held on April 16th again informed the council that an additional sanitary inspector must be appointed. A resolution was passed, which will be sent to the Local Government Board, stating that the district council will still continue its present arrangements. This means that the council will have to pay the whole of the salary of the sanitary inspector, as previously the Local Government Board had allowed half of the amount.

The Gloucestershire County Council and Post-mortem Examinations.

At a meeting of the Gloucestershire county council, held on April 15th, the chairman stated that the finance committee had written to the Home Secretary in consequence of the number of post mortem examinations ordered by the coroner for the southern division of the county, Mr. E. M. Grace. The Home Secretary having informed the committee that the matter was not in his jurisdiction, the Lord Chancellor had also been approached upon the matter and he had acknowledged the receipt of the letter, and although the committee had again written to him it had received no acknowledgment of its communication. As the chairman remarked there was no other person to whom to refer the matter, it is presumed that the subject will now drop.

Alcoholism and Medicated Wines.

At a meeting of the sanitary committee of the Cornwall county council held on April 15th Mr. J. M. Nicholls, J.P., of St. Ives drew attention to the question of medicated wines. He stated that as a medical practitioner it had come to his knowledge that temperance people were recommended medicated wines and had thought them a "wonderful pick-me-up." Mr. Nicholls proposed that it should be pointed out to the Board of Trade that it was desirable that all medicated wines should show in a prominent part of the label the percentage of alcohol and nutrition which they contained. The committee decided to adopt Mr. Nicholls's suggestion.

The Exeter Asylum.

At a meeting of the Exeter city council held on April 7th it was decided to obtain the approval of the Commissioners in Lunacy for the proposed extension of the asylum and the erection of a residence for the medical superintendent. The cost of the scheme is estimated at about £10,000, and it was determined to apply to the Local Government Board for permission to borrow that sum.

Death of John Careful Mackay, M.D. St. And., L.R.C.P., L.R.C.S., L.M. Edin., J.P.

Dr. J. C. Mackay, who died at Melness, St. Columb, Cornwall, on April 7th, in his fifty-seventh year, was born in Watten, Caithness, and qualified L.R.C.P., L.R.C.S. of Edinburgh in 1877. He commenced practice at St. Columb in 1882 and was shortly afterwards appointed medical officer of health of the district. For several years Dr. Mackay was medical officer of the workhouse and public vaccinator of the third, sixth, and seventh districts of the St. Columb union. He also for some considerable time held a commission in the 2nd V.B Duke of Cornwall's Light Infantry, retiring with the rank of Surgeon-Captain. In 1893 he graduated M.D. of St. Andrews, and in 1908 he was placed on the commission of the peace for the county of Cornwall. On his retirement from practice after more than a quarter of a century's professional work in St. Columb and the district, his many friends and patients presented him with a solid silver tray and tea service and silver rose bowl, accompanied by an illuminated address with 381 signatures of subscribers. Dr. Mackay was a staunch Churchman and a generous contributor to the restoration of the fine old parish church of St. Columb which took place about four years ago. He will be much missed at St. Columb, where he was highly respected, for he always had taken a great interest in all movements calculated to promote the welfare and pleasure of the inhabitants. His aged mother survives him and sincere sympathy is felt with her and his widow. The funeral, which took place at St. Columb Cemetery on April 10th, was largely attended.

pril 20th.

BIRMINGHAM.

(From our own Correspondent.)

The University.

The summer term commenced on Monday last and, recognising the shortness of the period which now separates them from the examinations, the students have thrown themselves quickly and heartily into their work. The number of new entries cannot yet be estimated, but the prospects appear favourable, though it is not usual for many students to enter in this term. It is rumoured that some important changes will take place in association with the surgical staff of the University before the winter term commences, but no official statements have yet been made with regard to the matter.

The Children's Hospital.

At the last quarterly meeting of the board of governors of the Children's Hospital, a deputation from the Aston Villa Football Club and the Variety Theatre's Charity Sports Committee presented to the hospital a cheque for £1000 for the purpose of endowing a new cot. In making the presentation, Mr. F. W. Rinder, who represented the football club, stated that the Aston Villa club, since its formation, had been the means of raising and distributing for charitable purposes over £25,000, and he assured the governors that the sports committee would give what help it could to the scheme for the new building. Speaking for the sports committee, Mr. J. E. Margoschis said that in addition to subscribing to many other charities, and beyond the sum now presented to the Children's Hospital, his committee had, since its foundation, handed over to the General, the Queen's, and the Children's Hospitals a further sum of about £1500, and he hoped that the work would be continued for many years.

The Health of the City.

Dr. J. Robertson's report for the week ending April 17th is the most satisfactory report which he has issued this year, for although the total death-rate—18·4 per 1000—is 1·4 per 1000 higher than that recorded for the week-ending April 3rd, the other features of the report are all very satisfactory. In the first place, the city is free from typhoid fever; there have been no deaths from this disease during the past fortnight. No fresh cases have developed and the hospital is empty. The other satisfactory features recorded in the report are the decline of the epidemic of measles and the decrease of diphtheria. In the week ending April 2nd there were 30 deaths from measles, but last week only 11 deaths were due to that cause. As regards diphtheria, the number of cases in hospital has been reduced from 107 during the week ending March 6th last to 64 last week, and the total zymotic death-rate has fallen to 2·6.

The Water-supply and Lead Pipes.

It has been repeatedly stated that our Welsh water-supply is dangerous on account of the solvent action of the very soft water on lead pipes; the statements have never been supported by any satisfactory proofs, and as the result of a series of experiments made by the city analyst they may be dismissed as devoid of foundation. Samples taken at intervals from consumers' taps were found devoid of any serious amount of lead. If the water is allowed to stand in lead pipes for a month or more it does dissolve a certain, but not an excessive, amount of lead. The experiments showed that water standing in lead pipes exercised some influence in making a protective covering, and taken as a whole the results of the experiments indicate that the Welsh water has no violent action on lead pipes, even when the pipes are new, and what action there is rapidly decreases as the pipes become older.

The Adulteration of Butter and Milk.

The annual report of the city analyst for the year 1908 shows that so far as butter is concerned there was less adulteration by preservatives than in any previous year; on the other hand, the amount of adulteration in other ways showed an increase over 1907, but was less than in 1906. The adulteration of milk by preservatives was also very slight, but the proportion of adulteration by water or skimming was greater than in the four preceding years. The latter result, however, in the opinion of Mr. Liverseege, does not actually indicate an increase of adulteration, but is due to the increase in the number of samples taken. We may, therefore, congratulate ourselves that, so far as adulteration of two of our principal foods is concerned, there appears to be less adulteration than in the past, and as the prosecutions of the adulterators have resulted in many cases in the infliction of severe fines we may hope to suffer still less from adulteration in the future.

Medical Inspection at Smethwick.

The first annual report of Mr. W. F. Marsh Jackson based upon the examination of 6897 children in Smethwick schools is decidedly optimistic, as may be gathered from the reporter's conclusion that the results he has obtained justify the opinion that so far as Smethwick is concerned there is no manifestation of physical degeneration. Nevertheless, it appears from the report that nutrition was below the normal in 23·8 per cent. of the cases, that the teeth were defective in 22·4 per cent., and vision in 15·2 per cent. The defects of hearing were less numerous; there was only a small proportion of lung and heart diseases; and a still smaller proportion of tuberculous affections.

April 20th.

LIVERPOOL.

(From our own Correspondent.)

The Report on the Liverpool School of Tropical Medicine.

The Government Blue-book containing the annual report of the Advisory Committee for the Tropical Diseases Fund for the year 1908 has recently been issued. From this Fund the Liverpool school receives a grant of £1000 per annum The report speaks highly of the accomplishments of the school, the committee stating that it is of opinion that the work continues to be of a high order of merit and fully justifies the continuance of the grant. The Government grant is spent partly in payment of the salaries of special lecturers and partly towards the cost of research work carried out at the school. The committee approves of the work to be carried out by means of this grant. It is satisfactory to find that the work of this school continues to merit expert approval, as all who know anything of public events felt confident that it would. There is no department that has done more to increase the reputation of the University of Liverpool than the School of Tropical Medicine. It is known all over the world, and its great work in the cause of humanity is everywhere appreciated. Professor Sir Rubert Boyce, who was sent by the Liverpool School of Tropical Medicine, at the request of the Secretary of State for the Colonies, to Barbados to investigate a slight outbreak of yellow fever there, has now left Barbados on a tour round the neighbouring West Indian Islands with a view to advising on matters of sanitation. Sir Rubert Boyce completed a great amount of work whilst in Barbados and, in addition, delivered useful lectures on sanitary science to the medical staff of the island, the leading merchants, the agricultural societies, and the consular corps, having been in touch with all classes of the community, and directed a very straightforward message to all. Dr. A. Kinghorn and Mr. Montgomery, who were sent out to Central Africa on behalf of the Liverpool School of Tropical Medicine to inquire into the possibility of, and means of, checking the spread of sleeping sickness into British Central Africa, have recently returned to England after a sojourn of about two years in those territories.

The Proposed New Out-patient Department at the Royal Southern Hospital.

The new out-patient department at the Royal Southern Hospital will occupy a site in Caryl-street immediately opposite the main building. The land was acquired and cleared by the committee some years ago in anticipation of the necessary funds for building which, I understand, are now forthcoming. The cost of this much-needed provision for the proper dealing with some 50,000 attendances of out-patients a year will be about £8500, of which the city council is empowered to vote £4000. The whole of the amount is now available, but for furnishing the new department there is still required an additional sum of £1200. In the erection of the new buildings the latest scientific ideas are being carried out. In order that the out-patients may not communicate infection to the in-patients, the new building is to be completely separated from the hospital proper; and, in the second place, the plot of land is large enough, being 960 square yards in extent, to allow the air to circulate freely all round. The large waiting-hall, which is to be placed in the middle of the building, will be carried considerably higher than the surrounding offices, thus enabling the whole to be lighted on all four sides, and the windows will be arranged so as to afford a thorough draught. Suitable accommodation will be provided for the medical and nursing staffs, separate entrances being provided. The building is to be faced with red pressed bricks and stone bands, and the roofs are to be slated with the outputs of British quarries. Building operations will commence immediately, and, when completed in about 12 months' time, will result in an ornate building which will be an important addition to the hospital equipment of the city.

The Fireguard Clause of the Children Act: The First Liverpool Prosecution.

The first Liverpool prosecution under the "fireguard" clause of the Children Act was heard at the Dale-street police court on April 16th. The defendant, a widow, was charged with having allowed her daughter, aged six years, to be in a room where there was a fire in an open grate without [illegible] the child being burnt. [illegible] working at the time [illegible]eaded poverty as the reason for not being able to provide a guard. The magistrates advised the woman to procure one and dismissed the case, as the police confirmed her protestation of poverty.

Death of Edward Penrose Twyford, M.D. Edin.

Dr. E. P. Twyford, late of St. Helens, died on April 8th, at his residence at Birkdale, near Southport, as the result of a short attack of pneumonia. The deceased retired from practice a few years ago after 55 years of active work. The death of his only daughter, Mrs. Gray, widow of the late Dr. Gray of St. Helens, at the beginning of this month, had a very depressing effect upon him, and probably accelerated his death. He was 78 years of age. He held the commission of the peace for the borough of St. Helens and also for the county of Lancaster, and was held in the highest esteem by the inhabitants of St. Helens and neighbourhood.

April 20th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Medical Aspects of the Poor-law Commission Report.

CERTAIN points of notable interest and importance were brought to the front the other day in a discussion before the Economic Section of the Royal Philosophical Society of Glasgow on Some of the Medical Aspects of the Poor-law Commission Report. Dr. John C. McVail, medical officer of health of Stirlingshire and Dumbartonshire, in opening the discussion put forward a scheme with the idea of checking disease, not only in paupers, but at its very beginning also in those who were not paupers, but through illness had every chance of becoming so. It was suggested that this should be done by medical provident institutions. If the country were divided into areas for medical provident purposes, if all the medical men living within that area were allowed to put their names on the list of the institution as willing to act, if all who were willing to receive its benefits were allowed to contribute a fairly sufficient amount to make them realise that what they were getting was worth paying for, the State might subsidise such institutions so as to have a share in the control. In institutions of that kind there was no reason why there should not be periodic visits by the medical man to all the cases on his own list, not very frequent, say once in the 12 months. He would visit, not because he had been sent for, but he would go to the homes to see whether the people were well, to ask questions, to give guidance to parents as to the upbringing of children and the kind of occupation for which they were fitted. All that might be Utopian, but Dr. McVail could not see why some such scheme should not be adopted. In the course of subsequent discussion Dr. A. K. Chalmers, medical officer of health of Glasgow, referred to the question of charitable medical relief in Glasgow, stating that he had worked out for another purpose there were 140,000 people receiving such aid every year, or one out of every five or six persons.

Convention of Royal Burghs of Scotland.

At the convention held in Glasgow recently the Lord Provost of Dundee called attention to the subject of pulmonary phthisis and the position thereanent of the public health authorities, and moved that the matter be remitted for further consideration. It was also suggested that the Government be asked to give a grant to local authorities, who either by themselves or in combination would take active steps in dealing with the disease. It was pointed out, on the other hand, that if in Glasgow they treated pulmonary tuberculosis as they did scarlet fever and other ordinary infectious diseases they would have 3000 consumptive cases for hospital and 1*s.* per £ would not cover the cost. The Glasgow health committee was spending its energy in seeking to get at slum property and insanitary workshops, and in that way preventing people from contracting the disease.

Medical Inspection of Dumbarton Schools.

The Scottish Education Department has recently issued a memorandum on the subject of medical inspection of schools, and has advised boards to hold their hand until information has been obtained for the Department and workable schemes formulated. Notwithstanding this the School Board of Dumbarton has decided to have a preliminary medical inspection of the children in the burgh schools made by the local medical men with the view of assisting the board in determining (1) whether the condition of the children requires that the board should submit a scheme for the approval of the Department, and (2) what scheme, if any, should be submitted. The Departmental memorandum lays it down that any expense incurred by boards in this connexion will not be sanctioned till schemes have been adopted, but that difficulty is being overcome in Dumbarton by the medical men volunteering to carry out the preliminary inspection in question free of charge. It is computed that this action on their part saves the board a sum of £200.

April 20th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Vivisection in the Lay Press of Ireland.

ONE of the gratifying signs of the times recently made manifest in Ireland is the very active sympathy with scientific research which has of late been obvious in all directions. A specially encouraging example was a leading article which appeared on April 19th in the *Freeman's Journal*, in which sympathetic attention is called to the fact that "the people of science have been forced to start a Research Defence Society to meet the attacks of the sentimentalist." The testimony contained in the recently issued volume of the society our contemporary finds to rebut "the charges made violently against honest and humane men who work in the laboratories seeking the cure of human diseases and find in animal reactions the test of many medicines and in the examination of animal organisms the secret of many living processes and of many maladies and remedies." The writer proceeds to point out that the undeservedly abused votary of physiological and pathological science and the truly benevolent worker in the best interests of humanity, "plead not guilty to the charge of inflicting pain upon animals, and they are very proud of having conferred great good upon humanity." The testimony of Professor E. H. Starling is quoted with thorough appreciation, to the effect that though he has been for 17 years engaged in the experimental pursuit of physiology yet he can say that "on no occasion has he ever seen pain inflicted on a dog or cat in a physiological laboratory in this country." In presence of the conditions and environments which influence the embryonic growth of our new Irish University, such candid and discriminating expression of lay opinion may be looked upon as one of the most encouraging omens of our national scientific progress.

Hospice for the Dying, Harold's Cross, Dublin.

All critical observers, friendly or otherwise, admit that the number and efficiency of the medical charities of our Irish metropolis stand relatively high among those of the various other capital cities of civilised nations. And the Hospice for the Dying, Harold's Cross, Dublin, is a unique institution even for Dublin. The claims of this institution were eloquently pleaded on Sunday last by the Very Rev. T. Maher, S.J., who detailed the circumstances under which this institution was founded a quarter of a century ago. The fact is recognised by all visitors that those victims of fatal disease who seek the refuge of the hospice are treated during the closing days of their lives with watchful care; and all Father Maher's hearers fully realised what a high standard of attainment the institution represented, having regard to the work which the Sisters of Charity are continuously engaged in performing in so many other fields of charitable endeavour. A large proportion of those who seek the shelter of the hospice are either poor patients who have been discharged from the general hospitals as incurable cases, or destitute ones who have been discovered in miserable and uncared-for surroundings by the sisters in their visits among the very poor. The consoling advantages to the destitute dying of the change to surroundings in which every possible attention and comfort are supplied cannot be over-stated. Since the foundation of the hospice thousands of victims of hopeless disease of all ages and of every creed have been sheltered and cared for within its walls, and every philanthropic citizen of Dublin, and of Ireland at large, feels hopeful that the generosity of our people will enable it to continue its splendid work.

Action by a Nursing Home.

The Irvinestown board of guardians were sued by the Belfast Incorporated Nurses' Home on April 17th at Enniskillen, before his honour Judge Craig, county court judge, for £2 18*s.* 4*d.*, in the following circumstances. It appeared that a nurse from the Belfast Nurses' Home was absent on sick leave at the Irvinestown Workhouse Hospital from Nov. 18th, 1908, until Dec. 2nd, 1908, but that during that time her sister, who is also a nurse connected with the Belfast Home, performed her duties and took her place. The guardians refused to pay the original nurse's sister for her services on the ground that they only allowed the sick leave on the understanding that she was to pay her own substitute. His honour, in giving a decree for the amount claimed, said in his opinion it was a shabby thing for the guardians to defend the action at all.

Mortality in Ireland.

For the week ending April 10th the highest death-rate in Ireland was recorded in Newtownards—viz., 40 per 1000 per annum of the population of the district; Ballymena, county Antrim, has a rate of 35·5 per 1000; and Galway, one of 35 per 1000. No other town exceeds 30 per 1000. The lowest rates were in Tralee (county Kerry), 5·3 per 1000, and Waterford, 9·75 per 1000. No other town was below 10 per 1000. The rate in Belfast was 27·0 and in Dublin 25·5 per 1000. The average rate in Ireland was 24·5 per 1000. The deaths from zymotic disease were 1·5 per 1000. 16 of the town districts had no deaths from zymotic diseases. Ballymena had three deaths from measles and one from diphtheria, and that town had the highest zymotic death-rate—19 per 1000.

The Irish Universities Commissions.

The two commissions appointed to draw up statutes, &c., in regard to the National University and the Belfast University, are working hard so that if possible both new universities may be able to begin work next October, when, if they are both ready, the Royal University will be dissolved. The National University Commission has made considerable progress in the financial arrangements, while the Belfast body has in the past given more attention to the framing of the statutes which are now practically complete. The National University Commission will have, it is said, special professorships in various branches of Celtic, and it is announced that the Belfast Commissioners propose to make appointments to the following additional professorships: modern history, economics, French and Romance philology, and botany. They also propose to make appointments to the following additional lectureships or readerships: archæology and ancient history, English language, Celtic languages and literature, logic and scholastic philosophy, physics, geology, organic chemistry, and bio-chemistry.

April 20th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Outbreaks of Typhoid Fever among Soldiers.

AT a meeting of the French Society of Military Medicine held on April 1st M. Rudler gave an account of an epidemic of typhoid fever which was attributed to infection of clothing and hands incurred by the men during a bathing parade for horses. M. Collignon then gave an account of the outbreak of typhoid fever which lasted for some 20 years—that is to say, between 1888 and 1908—in the 25th Regiment of Infantry stationed at Cherbourg. The outbreak was evidently due to the water of the Divette which was fouled by surface drainage. Despite the installation of Chamberland filters and afterwards of sterilisers on the Salvator principle, the fever did not disappear from the regiment until the day when the only drinking water used was boiled and flavoured with tea. On two occasions this supply was interrupted and the fever reappeared. This was due to the fact that there were two supplies of water, one being sterilised and the other impure, and the men, despite all precautions and the severest penalties, would go on drinking the impure water, which to their eyes appeared exactly the same as the sterilised water. M. Collignon proposed that in all garrisons where the water-supply was suspected the drinking water which was distributed should be boiled, flavoured, and sweetened. Another epidemic of typhoid fever broke out recently at Vannes and M. Collin gave an account of its origin. There are stationed at Vannes two regiments of artillery and two companies of infantry. One only of these two companies was attacked, while all other members of the garrison were immune. The company which was attacked used to eat salads which were supplied to them by a market gardener. This man had a daughter who was suffering from typhoid and her excreta were thrown into a ditch which was in the garden and also sometimes on the vegetable beds. Besides, there was a well only a few metres below this ditch and the water of this well was used for watering the garden. A bacteriological analysis revealed the presence of the coli bacillus upon the salad vegetables. 44 soldiers were attacked and five died.

Radium in the Treatment of Malignant Disease of the Œsophagus.

At a meeting of the Hospitals Medical Society held on April 2nd M. Guisez and M. Barcat said that in patients who were suffering from cancerous stricture of the œsophagus, which had been diagnosed both by œsophagoscopy and by examination of a fragment of the growth which had been removed, they made a careful examination to assure themselves that the passage of the œsophagus was free and then introduced a sound armed with radium bromide, which they left in place for several sittings of four to five hours. In these cases they used the highly penetrative rays of Dominici. The result of this treatment was the complete disappearance of the foul and blood-stained secretion and an augmentation of the calibre of the œsophagus, which in two of the patients got back to almost its normal dimensions. The speakers considered that, even if there is no cure, this method of treatment considerably relieves the condition.

Collargol in Surgical Affections.

At a meeting of the Surgical Society of Paris held on April 2nd various members gave their opinion as to the employment of collargol in surgical affections. M. Reblaud gave it as his opinion that as a local antiseptic in urethro-vesical troubles collargol was very inferior to nitrate of silver, but in uterine infections following upon abortions and in septic pleuritic effusions when surgical intervention alone did not bring about a fall in temperature the association of collargol brought about rapid defervescence. M. Dupuy, in a case of very extensive injury of the rectum, obtained rapid cicatrisation by the use of gauze wicks impregnated with vaseline containing 10 per cent. of collargol.

Hot Air in Surgery.[1]

At the same meeting of the same society M. Bonamy and M. Muller said that since February, 1907, they had been in the habit of applying hot air in surgery at the Gouin Hospital. They had used the treatment in gangrene, both diabetic and traumatic, in ulcerating cancer of the breast, epithelioma of the neck of the uterus, and sundry skin diseases. They showed the patients and the Gaiffe apparatus which they had used. It seems fairly certain that this method is destined to play a considerable therapeutic rôle.

The Treatment of Laryngeal Stenosis by Gutta-percha Bougies.

At a meeting of the Academy of Medicine held on April 10th M. Sieur gave an account of two cases of laryngeal stenosis successfully treated in the following way. After a preliminary laryngostomy the larynx was dilated with gutta-percha bougies gradually increasing in size. The first case, due to the bite of a horse, was cured in 15 days. The second case, in which the stenosis followed an attack of enteric fever, had to be treated for a year but the result was quite successful.

April 20th.

COPENHAGEN.

(FROM OUR OWN CORRESPONDENT.)

The Influence of Light upon Gelatin.

THE therapeutics of the curative and bactericidal properties of light would rest on a firmer foundation if we had more knowledge of the decomposition which the light rays provoke in the chief constituents of the living organism, particularly in the proteids and albuminoids. Great interest was therefore taken in a paper, read at a recent meeting of the Copenhagen Medical Society by Dr. Aage A. Meisling, on his original researches regarding the sensitivity to light of albuminoid substances. The most important results of his investigations on the action of light rays on gelatin were as follows. Pure gelatin is in itself, he found, sensitive to light, so that it is sufficient to expose it for five to ten minutes to a Bang electric arc lamp in order to obtain demonstrable alterations of the gelatin. This sensitivity to light increases very considerably when the gelatin is coloured by certain aniline dyes, for instance, erythrosine, eosine, or auramine, which dyes can be shown to act as catalytic agents. After exposure to light gelatin evidences the presence of formaldehyde. This production of formaldehyde from the gelatin is greatest after exposure to the blue, violet, or ultra-violet rays. The action of light on gelatin may be demonstrated and measured by either physical or chemical methods. To name an instance of the former method, those parts of a pure gelatin plaque that have been exposed to the action of light can be shown to acquire thereby a diminished faculty of water absorption, so that if after the exposure to light the plaque is placed in water prominences arise upon it, being formed at those parts of the plaque from which the light has been excluded. Similarly, very beautiful patterns in relief may be obtained by making the light act through an ordinary photographic negative on a gelatin plaque, sensitised by erythrosine, and afterwards placing the plaque in water. The gelatin acted upon by light will be found also to acquire an altered solubility in water, so that the parts which have not been subjected to light will alone dissolve when the plaque is placed in water, that is to say, the physical action of light on gelatin is a hardening one. One of the chemical changes which take place in illuminated pure gelatin is an oxidation, another the formation of formaldehyde, which has already been mentioned and which explains in a satisfactory way the hardening and coagulation just described. A further peculiar property of illuminated gelatin is its increased power of absorption of colouring matter. When, for instance, a gelatin plaque is placed in a solution of an aniline dye, the parts that have been exposed to light become far more strongly coloured than the rest of the plaque. In this way beautifully coloured copies may be obtained from photographic negatives. Under certain conditions the light produces not only formaldehyde but also hydrogen peroxide in the gelatin: this formation of hydrogen peroxide is due to the presence of sulphuric acid, resinous matter, and other substances, not to the pure gelatin itself. Both formaldehyde and hydrogen peroxide are oxidising agents, though acting in a different way; when acting together they bring about very strong oxidations of an extremely complex nature. With mixtures of formaldehyde and hydrogen [illegible] simply mixtures of the two mentioned chemical bodies. In summing up Dr. Meisling said that in his opinion the chief importance of his investigations might be found in the fact that some of the enigmatical "vital" processes particularly connected with the colloid substances had been shown to follow simple physical and chemical laws. Dr. Th. Madsen and Professor C. J. Salomonsen congratulated the speaker on his important work, which they said would undoubtedly give a new impulse to the chemistry of colloids.

The Vaccine Treatment of Staphylococcic Diseases.

At the same society Dr. Vilh. Jensen read a paper on his experience with the vaccine treatment on Sir Almroth Wright's principl[illegible] the treatment of [illegible] in the extreme, se[illegible] cured. He had also seen good results in some cases of acne vulgaris, in a case of staphylococcic sycosis barbae, and in a case of staphylococcic septicæmia. Two cases of actinomycosis failed to show any improvement, but in both cases the patient was in the last stage of the disease.

April 20th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Weather and the Visitors.

HARDLY more than a week ago we were wincing under a chill nor'-easter charged with indurated snowflakes—*nevischio*, in Italian parlance, or baby hail-stones—which never fell to the ground, but whirled through the air like the many-tailed whip of the flagellating Furies; and now we are revelling in sunshine just redeemed from sultriness by the zephyr blowing from "the *bijou* Bernese Oberland" rapidly fading from the Apennines. A longer, severer winter has never been followed more suddenly by so delicious a spring, and every interest, urban as well as rural, is enjoying the blessed change. Many a landlord of a hotel, who might have sat for the frontispiece of "Zimmermann on Solitude," has now to give up his own bedroom to the importunate guest, the latter being lucky if he has not to bivouac in the billiard-room or to find a dormitory in the recess of a bow-w[illegible] arrival, unless he has secured [illegible] met by the hall-porter "with h[illegible] in Rome the caravans of pilgrims, mainly from France, are only saved from camping out in the open by being billeted on private citizens or provided for in temporary holdings improvised in hot haste by the Vatican. Fortunate, indeed, will it be if the heavy sick-list or even death-rate of the last few "Siberian" months is not increased by promiscuous over-crowding in conditions too often suggestive of the "Black Hole of Calcutta"!

The Health of the Queen-Mother.

Disquieting rumours as to the Dowager Queen Margherita have for some time been in circulation, rumours gaining rather than losing in the process of transmission. The facts, I find on inquiry, to be these. Her Majesty is at present suffering from facial neuralgia supervening on influenza—

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[1] THE LANCET, March 20th, 1909, p. 877.

neuralgia, moreover, somewhat irresponsive to treatment. The prognosis, however, is quite favourable and the general conditions of the august patient are satisfactorily maintained. The Queen-mother, I am further informed, improves in proportion as she consents to keep not merely to her room but also to bed, in accordance with the advice of Her Majesty's consultants, impressed as they have been with the draughts made on her strength by the anxieties and the exertion consequent on relief work on behalf of the survivors of the earthquake.

The Debate in the Senate on the Earthquake.

An animated, occasionally overheated, discussion on the Government's remissness in aiding the sufferers from the recent earthquake on the Siculo-Calabrian seaboard has just awakened unwonted echoes in the tranquil *ambiente* of the Upper Chamber. A Bill for "Opening an account between the Treasury and the Minister of Public Works to provide for the urgent wants of the communes visited by the telluric storm of Dec. 28th, 1908," evoked from the veteran surgeon, the Senator Francesco Durante, a series of trenchant criticisms on the delays and general inefficiency of the relief work hitherto attempted. A vivid sketch of the cataclysm and its immediate consequences preceded Dr. Durante's impeachment, in the course of which he dwelt on the fact that the wretched survivors of the visitation had to wander throughout all Italy, in island and on mainland, in quest of a hospitality made possible by the subventions of the outlying world. "Charity," continued the Senator, "however great, has its limits, and the *profughi* have now for some time been a prey to misery and privation, in not a few instances breaking out into turbulent protest and forming an element of local unrest and disorder. After three months Messina and Reggio and the townships in their respective provinces are precisely in the same conditions in which they were found on the morrow of the disaster. *Poco si è fatto e quel poco non bene* (little has been done and that little badly)!" He was especially severe on the construction of the *baracche* (huts). "They will not last more than one year, their material being of fir-wood and their site ill-chosen. Better would it have been, *pari passu* with the construction of well-found huts, to proceed actively with the clearing away of the débris of the collapsed quarters, under which there are still many tenements and shops capable of harbouring in comfort and in business no inconsiderable part of the population." A Messinese by birth, the Senator Durante spoke feelingly on a subject near his heart, and when His Excellency Signor Bertolini (Minister of Public Works) attempted to rebut, or at least to minimise, the doctor's criticisms, he was met by the retort that whereas he grounded his statements on the reports of officials themselves inculpated, the criticisms were inspired by experience gathered by impartial eye-witnesses on the spot. "There is also," continued Dr. Durante, "the problem of alimentation to be solved, and I ask, how is a population to live without occupation, industrial or commercial? First of all," he concluded, "clear away the débris, restore the conditions of life impossible in cities composed only of huts. Short of such rehabilitation Messina will never rise again." The veteran consultant's speech made a profound impression on the Upper House and (as reported) throughout the country, confirmed as it is in some important respects by the ocular evidence of visitors, including no less a witness than ex-President Roosevelt.

April 17th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

The Medical Congress at Budapest.

ALTHOUGH the organising committee of the approaching International Medical Congress has not issued any information as to the effect upon the congress in case war should have broken out every Hungarian physician nevertheless has been in great anxiety about the success of the congress should the war really have disturbed it. At present Hungarian medical science is mostly in young hands, which would all have been needed in the battlefield. In Hungary there is compulsory medical service, and every able-bodied man is in the reserve service until his thirty-eighth or fortieth year. This is particularly binding upon medical men, of whom ten times as many as are available would scarcely be sufficient for service in the field. Should war have broken out the congress would have been deprived of half of its native supporters. Now that the situation is happily clear the preparatory committee is working with double diligence. Circulars have been sent t[illegible] societies asking them to send [illegible]. Town councils have also been asked to send one or two representatives from their medical boards and school physicians; in short, all medical men filling official positions are specially invited to the congress, which promises to be exceptionally well attended. I hope to be able to report the detailed programme of the congress in my next letter.

The Death of Professor Thanhoffer.

The Hungarian medical world is mourning the death of Louis Thanhoffer, the eminent anatomist. He was renowned for his achievements in the domains of pathological and physiological histology. The structure of nerve ganglions and the study of the nerve endings in different organs were the first objects of his study. When only 26 years of age he became professor of histology in the Budapest Veterinary College. He was transferred thence to the University as professor of anatomy and here he has worked incessantly with exceptional devotion. He was a man of great character and as remarkable for his scientific honesty as for his learning and talents. He often quoted as his motto, "*Qui proficit studiis sed deficit moribus, plus deficit quam proficit.*" He was the author of several excellent books, the best one being the "Comparative Physiology and Histology," which was crowned with the Balassa prize and which has been translated into the German and Russian languages. He was born in 1843 and died in his sixty-sixth year after a long and distressing illness. But a few months before his death he received from His Majesty the title of "Adviser to the Court" (Hofrat).

April 10th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Summer Term at the Medical Faculty of the University and some Figures for the Winter Term.

THE official announcement of the lectures and classes in medical subjects, to be held during the summer term 1909, in Vienna, has just appeared. The term lasts only three months, although it is called semester; it begins during the last week of April and the last lecture will be delivered on or about July 20th. Altogether 406 different classes and courses are announced, against 380 in the summer term, 1908. The number of professors engaged in this work amounts to 33 ordinary, 65 (as against 69 in 1908) extraordinary professors, and 149 (as against 134) *privat-docenten.* The number of ordinary students who attended the medical courses in the winter term, 1908–09, was 1660, amongst them 62 ladies and 385 foreign students, mostly English, American, and Russians. The increase over the previous winter term was about 5 per cent., but the percentage of students taking up medicine in comparison with the total number of students at the Vienna University has remained stationary during about four years; it is 22 per cent. of the grand total, showing that there is little, if any, percentual increase in the study of medicine, and the increase is due to the increase of population. As regards the lectures, some of the more important are as follows: Professor von Noorden on disturbances of metabolism, including gout and diabetes; Professor von Neusser on circulatory disturbances; Professor von Struempell on nervous diseases; Professor von Eiselsberg and Professor Hochenegg on general and special surgery; Professor Fuchs on ophthalmology; Professor Urbantschitsch on general otology; and Professor Chiari on laryngology. Special classes will also be held on otology by Alexander and Barany; on skin diseases by Nobl, Riehl, and Finger; on hæmatology by Schwarz and Türck; on pathology and morbid anatomy by Ghon, Stoerk, and Landsteiner; and sero-therapeutics by Paltauf and Kraus. As a rule, the fees for the courses are not high, £2 2*s.*–£4 4*s.*, according to the duration, mostly from 7 to 10 weeks. Of course, the above-mentioned classes are not the only ones announced.

A Laparotomy as an Object of Art.

Much comment has been raised by a picture, exhibited at present to the public at Vienna, which shows a noted Vienna surgeon at work, in the act of removing a myoma from the uterus of a middle-aged woman. The surgeon is Professor Wertheim, and his assistants are also well-known Vienna surgeons. The painter, Mr. Adams, an artist of considerable renown, has been mt [illegible] picture with its, from the [illegible] details. On the other han [illegible] attacked from different quarters for having given consent for exhibition, and has been accused of advertising, although he is above such a suspicion. The defenders of the novel idea of showing a serious operation to a public crowd contend that the famous picture "Anatomy," by Rembrandt, was inspired by the same idea, and that the renowned pictures of battles and shipwrecks are more gruesome and awe-inspiring than this aseptic, unbloody operation. But it must be conceded, even by an impartial surgeon, that the appearance of an incision in the abdomen, through which the contents, or part of them, of the abdomen are visible and protruding, does not belong to a very pleasing class of objects to look at. It is a matter of taste, and the fact that grave demur comes from artistic circles is a sufficient judgment on the matter.

Rupture of the Corpus Cavernosum Penis.

At a recent meeting of the Medical Society Dr. Paschkis showed a patient, aged 29 years, who came to him complaining of pain and swelling of the penis. The organ itself was found on examination to be m [illegible] ence at the base, the swelling [illegible] of blood. The patient had t [illegible] to turn the penis to the right [illegible] thing at the root of the organ give way, whereupon the swelling appeared and increased rapidly. There was marked tenderness, which, however, only existed along a small area of the left side, just at the base of the cavernous body, and a rupture of this body was diagnosed. An extensive hæmatoma, reaching high up over the pubes and down over the scrotal integument, was present. The only treatment adopted was rest and lead lotion applied every two hours. The swelling soon subsided, and now, six weeks after the incident, the patient shows a small indurated, somewhat tender, nodulated swelling of the base of the left corpus cavernosum. Erections are possible and slightly painful. As regards the etiology, it was contended that at the site of the rupture the condition of the tunica albuginea and of the blood-vessels must have been abnormal, otherwise this small injury could not have caused a tearing of this generally tough and resistant membrane.

April 14th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Unrest in Turkey.

THE mutiny of the soldiers which broke out in an unexpected manner on the night of April 13th, and which caused considerable bloodshed, seemed at first to corroborate the view of a large and earnest section of Europeans in Constantinople that the Turks are incapable of grasping their vital and essential responsibilities and of developing a constitutional *régime* on rational lines. Things seemed to be reverting to the old status of absolutism. Now, as I write, there is talk of civil war and talk of peaceful settlement, but the general opinion is that any settlement will be only temporary, and that in the near future new and fiercer conflicts will arise. In the meantime many of the military hospitals are filled with wounded and dying. The local newspapers say that about 60 people were killed, soldiers and civilians included, on the night of April 13th, but this is an under-estimate in order to pacify the excited minds of the population. What increases the anxiety is the uncertainty of the situation. Add to it the pernicious habit of the Greeks of unrestrainedly indulging in shooting at Easter time from all sorts of firearms, and it will be easy to form a fair judgment of the state of disquiet prevailing at present among all classes of the Ottoman metropolis. A good number of tourists have hastily left and some old inhabitants are thinking of following their example. Accidents of a grave and often fatal nature resulting from the indiscriminate use of revolvers by the Greek youth are quite common. The policemen seem to be helpless.

The Ottoman Pharmaceutical Association.

Over 200 pharmacists of Constantinople assembled lately in the premises of the Italian Società Operaia in order to deliberate on some important questions concerning the 35th Article of the Standing Regulations of the Ottoman Pharmaceutical Association. It was unanimously decided at this meeting that the delegates of the pharmaceutists should formulate and submit a new scheme of rules and precepts with regard to the actual status of the association, the rights and duties of its members, and the existing tariff, which is far from being satisfactory. In view also of the doubtful character of the Ottoman law which regulates, or rather ought to regulate, the practice of chemists and druggists, it was thought necessary to appoint a special delegation consisting of the president of the association, El Hadj Hamdi Bey, and Messrs. Irinéu and Husni Bey, to appeal to the authorities in order to bring about a more reasonable application of the law in question. This special delegation or commission will also take the necessary steps to guard the privileges of the association and to abolish the unlawful practices of numerous unscrupulous chemists and druggists, which practices are often prejudicial and even fatal to public health.

Transmitted Tubercle: An Extraordinary Cause of Lupus Vulgaris.[1]

Dr. Grossman, in an article which appeared in *La Pédiatrie en Turquie*, describes the case of a healthy boy, 13 years of age, who suffered from conjunctivitis and whose mother had perforated one lobe of his ear in order that he might be able to wear an ear-ring, which was a reputed charm against all disorders of the eye. The perforation was made with an ordinary needle. The woman, a neighbour, who assisted in performing the operation, made the needle wet with her saliva to facilitate its introduction. Soon afterwards the ear of the boy began to swell and in the course of time the wound degenerated into lupus vulgaris. Inquiries showed that the neighbour who helped the mother to perforate the ear lobe of the boy by wetting it with her saliva had died soon afterwards from tuberculosis of the lungs. The practice of wearing ear-rings as charms against the evil eye or disease is quite common in the Near East. As the needle used for that purpose is almost never properly cleansed and as no antiseptics are ever applied the result is very often infection of the worst type, as in the case now reported.

April 16th.

CHINA.

(FROM OUR OWN CORRESPONDENT.)

The International Opium Commission, Shanghai.

THE main practical utility of this Commission has been to bring together a vast amount of information as to the growth, manufacture, and sale of opium in various countries. Of its resolutions the most important was that in which the Commission declared that it was not constituted in such a manner as to permit the investigation from a scientific point of view of anti-opium remedies and of the properties and effects of opium and its derivatives. It deemed such investigation to be of the highest importance and desired each delegation to recommend this branch of the subject to its own Government for such action as that Government may think necessary. Another resolution strongly recommended each delegation to move its Government to enter into negotiation with China for the prohibition of the trade and manufacture of such anti-opium remedies as contain opium and its derivatives. It is a great pity that stress was not laid, before the Commission assembled, on the importance of having more medical and chemical expert knowledge in the inquiry. It did not require a Commission to tell us that opium smoking is a widespread evil and that China is making some efforts to grapple with it. What is wanted is a consideration of the best methods of suppression. Legal prohibition of the growth or import is not going to succeed. Smuggling is being irresistibly carried on in every other country (e.g., America, Ceylon, Australia, the Philippines, &c.) where there is a demand for it, and it is so with China. The chief Chinese delegate, Mr. T'ang Kuo-an, proposed:—

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[1] The case is a corroboration of the paper in THE LANCET of April 17th, by Dr. N. Neild and Dr. E. V. Dunkley.

> That a committee of five delegates be appointed to consider and report on the medical aspects of the opium question, including the best methods of curing the opium habit without recourse to opium and morphine.

In speaking to this proposal Mr. T'ang Kuo-an said:—

> We consider that this question is only second in importance to the suppression of opium in China. We think it would be futile for us to attempt to stop the smoking habit while we continue to use the drug in other ways, such as eating it in the form of pills, &c. Therefore if this Commission is going to justify its existence and is bent on accomplishing results which will be at all satisfactory it is necessary in our opinion that this matter should be fully discussed. To show with what importance the question is regarded by everyone I beg to state that His Britannic Majesty's Minister at Peking has frequently asked our Government what benefit China would derive from restricting the cultivation of opium were the opium evil in other forms (by which he meant the use of opium pills, &c.) to be allowed to be spread all over the Empire.

He added that he begged most earnestly for the coöperation and support of the Commission in favour of his proposal. Unfortunately, owing to the fact that the delegates had no power to exceed their instructions, the Commission was unable to "justify its existence," and this was the rock on which the practical usefulness and the proper aim and object of the Commission were wrecked. An amendment was carried to the effect that the Commission did not include a sufficient number of men competent to deal with the question and emphasised the fact that the Commission was not appointed with a scientific basis. Among the resolutions put forward by the American delegates one was to the effect that "the principle of the total prohibition of the manufacture, distribution, and use of smoking opium is the right principle to be applied to all people—nationals, dependent, or protected"—by each Government. Another resolution stated that "each Government represented is best able to determine what shall be regarded as legitimate medical practice." These did not find favour with the British delegates, who did not see their way, as far as India is concerned, to assent to total prohibition and saw great difficulties in defining what constituted "legitimate medical practice," it being impossible to apply Western medical ethics to a great country like China. It was found during the sittings that the representatives of China were unable to produce trustworthy statistical evidence of the actual extent of the diminution in the production of opium—a fundamental element of the problem of prohibition which will present increasing difficulties. In the inland provinces, which are the greatest opium-producing districts, taxation is irregular and for the most part evaded, and public and official returns are practically unknown. From one of these provinces (Kan-Su in Western China) 3630 piculs more opium found its way down the Yangtze river to Ichang in 1908 than the net import of all foreign opium. A picul is 133 pounds. So much for the work of the Commission, which cannot be said to have been a success, though it has paved the way for a scientific investigation into the best means of eradicating and curing the opium habit.

The Abuse of Opium in America.

As the International Opium Commission owes its inception to America, a few facts concerning the opium evil in that country may be added, from which it will be seen that the United States have a heavy problem of their own to settle. In 1907, 444,121 pounds of crude opium (i.e., for medicinal purposes) and 151,916 pounds of smoking opium were imported. In addition to this it is officially admitted that a large amount is smuggled into the country. The crude opium originates from Smyrna and the Levantine ports, while the islands of Macao and Hong-Kong supply the smoking opium. There are 100,000 to 150,000 smokers among the white and coloured population. Among the general criminal population 15·48 per cent. are smokers, as are 5·62 per cent. of prisoners. An incredible allegation is that 10 per cent. of the medical profession throughout the 25 States are addicts to the use of opium in one form or another. There is an enormous growth of the morphine habit, especially in rural communities. A large percentage of this class have become addicted to the morphine habit largely as the result of a sincere objection to the use of alcohol in any of its forms. From 10 to 20 per cent. of the Chinese population smoke. In every census period in America there has been a per cent. increase in the importation of smoking opium largely in excess of the per cent. increase of the population, and this in spite of the fact that the Chinese population has been practically stationary for 30 years. America intends to do her best to stamp out this growing evil in her midst, and a law has been passed which came into effect on April 1st, 1909, making it unlawful to import smoking opium or opium prepared for smoking, only opium for medicinal purposes being allowed. With regard to her colony in the Philippines, the American authorities have to admit that the ease with which opium is smuggled into the islands makes it impossible to cut off the supply. There never has been any growth in these islands, the chief sources of opium supply being Singapore and Hong-Kong. Of the total number of Chinese residents (55,000) in the Philippines 23 per cent. are registered officially as smokers. Hong-Kong and the Straits Settlements derive a great part of their opium supply from Persia. They take 50 per cent. of the total amount produced annually in that country—viz., 10,000 piculs a year; Europe and Africa take 5 per cent., Great Britain 20 per cent., and the remaining 25 per cent. is for home consumption. The total value of opium exported from Persia is £600,000 per annum. Though opium smoking is not prohibited in Persia, only the lowest classes smoke there.

Peking, March 9th.

Obituary.

THOMAS CRAWFORD HAYES, M.A. T.C. DUB., M.D. DUB., F.R.C.P. LOND.,

EMERITUS PROFESSOR OF OBSTETRIC MEDICINE, KING'S COLLEGE, LONDON; CONSULTING PHYSICIAN-ACCOUCHEUR AND PHYSICIAN FOR DISEASES OF WOMEN, KING'S COLLEGE HOSPITAL; CONSULTING PHYSICIAN FOR DISEASES OF WOMEN, ROYAL FREE HOSPITAL, ETC.

MANY former students of King's College Hospital will have learnt of the death of Dr. Hayes with the deepest regret. It occurred at his residence in Clarges-street, Mayfair, after a long and painful illness. His early studies were conducted in Dublin, where he graduated in Arts, and before leaving was a senior moderator and gold medallist at Trinity College. He entered the medical school at King's College in 1866, when Richard Partridge was teaching anatomy and Lionel Beale held the chair of physiology. It is somewhat curious that before qualifying he had not shown any marked preference for the special branch to which his life later was devoted; his tendency seemed to point rather to medicine than to obstetrics. He was awarded a special certificate in medicine, and after becoming a Licentiate of the Society of Apothecaries, he held office for a year as house physician at King's College Hospital. In the same year he was honorary treasurer of the medical society of the hospital. In 1872 he was elected Sambrooke medical registrar, and later in the year he was appointed assistant physician for diseases of women and children and assistant physician-accoucheur, on the promotion of Dr. W. S. Playfair to the professorship of obstetric medicine. He threw himself into his new duties with characteristic impetuosity, and his class rapidly appreciated the earnest nature of his teaching. Though this was marked by a somewhat dogmatic tone, it was perhaps more impressive than it might have been had he given expression to the different difficulties which so often stimulate further inquiry and research. In these early days he was autocratic in rigidly excluding from his out-patient room all junior students whom he considered were attracted by prurient curiosity rather than by a desire to study, and, it is needless to add, that in this way he was misunderstood by some men. On the other hand, he was unsparing in the time and trouble he devoted to the duties of the maternity department, and was ever ready to come to the rescue when suddenly summoned in cases of difficulty. Always keen on the practical side, he worked for some few years as physician to out-patients at the Evelina Hospital for Sick Children, and subsequently at the General Lying-in Hospital. After 17 years of probation he was appointed lecturer on practical obstetrics at King's College in 1889; a few years later his title was changed to that of professor, and on the resignation of Dr. Playfair he became professor of obstetric medicine and diseases of women. Meanwhile, he had been engaged in similar work at the Royal Free Hospital, and at the time of his death he was a consulting physician of that institution. In 1872 he became a Member of the Royal College of

Physicians of London, and in 1889 he was elected a Fellow, while he was for some time examiner in midwifery at the English Conjoint Board. In 1893 he was made a Fellow of King's College.

Dr. Hayes was of a retiring disposition in every way. He published no signed contributions, but his teaching was always carefully prepared, his delivery good and clear, and his thorough mastery of practical details carried conviction. Like most shy men, he was perhaps too prone to take offence and to imagine some slight or rudeness where none had been intended, but the storm was soon over and he resumed cordial relationship with a charming facility. He was at his best and brightest when surrounded by a sympathetic audience at friendly gatherings of present and former students, when he would pour out a fund of fun and anecdote that seemed to be inexhaustible. For many years he undertook the duties of honorary secretary to the dinner of former students, and his geniality and persuasive charm contributed largely to the success of these gatherings. Had he devoted himself more to literature than to the practical work of his numerous hospital appointments he would no doubt have been more widely known, but it may be doubted whether this would have added in any way to the appreciation of his students, upon whose affection he felt he could rely.

FREDERICK ERNEST WEBB, M.R.C.S. ENG., L.S.A.

THE death is announced of Mr. Frederick Ernest Webb on April 8th at the age of 77 years. He died at his residence, 113, Maida Vale, where for nearly 60 years he and his father had carried on one of the most successful general practices in London. Some weeks ago Mr. Webb had an attack of influenza, and for some time hopes were entertained of his recovery as the more unfavourable symptoms passed away; he, however, sank into a condition of complete unconsciousness, which continued for some time prior to his death. In him has passed away a typical old family doctor, a class which is yearly becoming smaller—men trusted often by two or even three generations of the same family. In him also the medical profession and the cause of medical science have lost an open-handed and practical friend.

Frederick Ernest Webb was a grandson of Thomas Stallad Webb of the Manor House, Coltishall, in Norfolk, a cadet of the old family of Webb of New Sarum, in Wiltshire, and was the only son of the late Thomas Ernest Webb and his wife Eleanor, the second daughter of the late John Venn of Highbury Park. His father, prior to his settling down in Maida Vale about the year 1850, carried on a large practice at Bungay in Suffolk, and there his son was born on August 28th, 1831. After being educated privately by the rector of a neighbouring parish, he passed some time with his father, and then, at an early age, he entered as a pupil at the Norwich Hospital, where the late Mr. Cadge, who was a connexion, was then the chief surgeon. There he passed two years, gaining much useful surgical knowledge; he was for at least a year the only pupil and had the whole of the surgical dressings to apply. From Norwich he proceeded to St. George's Hospital, the school of which he entered on his father settling in practice in Maida Vale. He completed his course of hospital study in 1854, and in that year he was enrolled a Member of the Royal College of Surgeons of England. In the following year he proceeded L.M. at the College and took out the Licence of the Apothecaries' Hall.

On obtaining his first qualification, in 1854, he at once joined his father in practice and with him he worked until their partnership was dissolved a few years before the elder partner's death, which occurred at the age of 74 years in the August of 1875. The years which followed the termination of his partnership with his father were the most strenuous of his life; although a general practitioner, he was also a surgeon and gynæcologist, undertaking often the most serious operations. His practice grew until it became one of the largest and most lucrative of the general practices in the West-end of London. Mr. Webb, when in his prime, would often after a busy day take a night journey to see some wealthy patient in the country. He often said that he never lost the confidence of a patient, and the regard in which he was held is exemplified by the circumstance that although he was for the last years of his life almost only a nominal partner in the firm of "Webb, Walker, and Adams," yet to within a short time of his death he saw some of these old patients professionally, so that he can be said to have died in harness. One of his chief friends in the days when he was working alone and at high pressure was the late Sir William Jenner, and by his advice it was that he took Mr. J. R. Walker as a partner, while some years later a third partner was taken into the firm, Dr. G. E. D'Arcy Adams.

In his busy and successful life Mr. Webb gave much of his time to the cause of charity. He was for many years honorary medical officer to the Home for Female Orphans in St. John's Wood and to the Hospital and Home for Incurable Children in Maida Vale (now located at Hampstead). On retiring from active work at the latter institution he was appointed consulting medical officer and he presented a sum of money to endow a bed in perpetuity. Of the former institution he was for long one of the vice-presidents. In March, 1901, he gave a donation of £1000 to the charity, which sum the governors invested and called the Webb Presentation Fund "in gratitude for Mr. Webb's many acts of kindness and valuable services to the institution for 36 years." Mr. Webb was always devoted to his hospital and school, St. George's, and had among its staff many old and tried friends. Ever delighting at the progress which had been made during his long life in the science of medicine, and in order to encourage the younger men, early in 1895 he presented to the medical school the sum of £1000 to found an annual prize in bacteriology to foster work in the new science which he saw meant so much to suffering humanity.

Apart from his professional life and public sympathies, Mr. Webb possessed a charming personality. He was very well known as an accomplished amateur musician; he played the violin, piano, and organ and was for long a member of the Royal Amateur Orchestral Society, of which the late Duke of Saxe-Coburg, as Duke of Edinburgh, was a member. Mr. Webb was the possessor of some very fine old violins and of a viola which had been given to his grandfather, Thomas Stallad Webb, by King George III. He also possessed con-[illegible] matters; he counted some of [illegible]s friends and patients, [illegible] their work. His home in Maida Vale was ever a centre of hospitality and the dinners, at which he entertained his professional friends, were delightful reunions. At these dinners there gathered round his table, among other friends, Sir James Paget, Sir William Jenner, Sir Joseph Fayrer, and Sir William Broadbent, and sometimes Frank Buckland, who had been his host's friend since his boyhood, and who added much to the enjoyment by his wit and utter disregard of the conventionalities of life. Frederick Webb was from his boyhood a keen sportsman and a first-class small-game shot; every year he passed a portion of the autumn and as many week-ends as he could spare either at a shooting which he rented near Berkhamsted, or in later life in Sussex, where for many years he rented a house called Loxwood and some very good shooting. He was also a fair billiard player, and during his latter years, when he could no longer see well enough to shoot, he devoted some hours each day to the game, either at the Constitutional or more often at the Oriental Club, of both of which he was for many years a member. This pastime was interrupted by the formation of double cataract a few years ago, but both eyes were most successfully operated on by Mr. H. E. Juler, and he was able, much to his joy, to resume his recreation at his clubs.

He married on August 28th, 1860, at St. Saviour's Church, Paddington, Mary Anne, only daughter of the late Mr. John Grafton, C.E., of Blomfield-crescent, W. He has left a widow, two daughters and a sister, Mrs. Thomas Fuller of Rugby, to mourn his death. He was buried on the morning of Tuesday, April 13th, at Highgate Cemetery; his cousin, the Rev. William P. Webb, M.A., rector of Ashwell, Herts, read the chief part of the service, in which Canon Duckworth and Canon Syers also officiated.

EDWARD RECKITT, M.D. ST. AND., M.R.C.S. ENG., L.S.A.

ON March 24th last Edward Reckitt, one of the few remaining pupils of Sharpey and Liston, died at his residence, Beech House, Wainfleet, [illegible]shire, in his eighty-eighth year. He commenced the [illegible] elder Dr. Lunn of [illegible] of the Hull School of Medicine and the practice of Hull General Infirmary from 1843 to 1845. In the latter year he proceeded to University College, London, attracted thither by the fame of Liston, and continued his studies there until 1846, when he qualified as M.R.C.S. Eng. and L.S.A. Whilst at University College Hospital he dressed for Liston and was ever afterwards a great admirer of that renowned surgeon. After qualifying at the age of 25 years, Reckitt returned to Hull, where his father and other members of the family, including his cousin Sir James Reckitt, the present head of the family, resided. Starting in general practice, he soon obtained a firm footing and was appointed lecturer on botany at the Hull School of Medicine and surgeon to the Hull and Sculcoates Dispensary. Under the stress of hard work his health gave way and in 1856 he purchased the practice of Dr. Kirkham Burton of Wainfleet, and here he continued to work for 40 years, retiring in 1896 after an attack of cerebral thrombosis resulting in partial paralysis of the right arm and leg, from which he never entirely recovered. Whilst in practice at Wainfleet he enjoyed the confidence of his patients to a remarkable degree. He rarely took a holiday. Particularly fond of surgical work, he necessarily performed many severe operations, and much of this work was done single-handed or with the help of only an untrained nurse. Called on one occasion to a case of wounded palmar arch, caused by the bursting of a shot gun and in which recurrent hæmorrhage supervened, he ligatured the brachial late at night by the light of lamp, single-handed and without the aid of an anæsthetic. His self-reliance and courage in emergencies—qualities so often needed in the life of the busy country surgeon—were marked characteristics in his work, and equally so his sound common sense and tact in dealing with those who sought his advice. For nearly 40 years he held the appointment of medical officer of the Wainfleet district of the Spilsby Union and surgeon to the coastguard. He was also for many years president of the Literary Institution. His fatal illness was of short duration, as he was out as usual until March 14th, when he caught a chill. Bronchitis resulted and he slowly sank from exhaustion, conscious almost to the last of the presence of those members of his family who could be with him. He died in the house in which he was born and which had been the home of his grandfather more than a century before. He leaves three sons, all of the medical profession—Dr. E. B. Reckitt of Boston, Lincolnshire; Lieutenant-Colonel J. D. T. Reckitt, late of the Royal Army Medical Corps and now staff officer to the A.M.O. 1st London Division T.F.; and Mr. W. F. Reckitt of London.

HENRY STILWELL, M.D. EDIN., M.R.C.S. ENG., L.S.A.

THE death is announced of Dr. Henry Stilwell, which took place at Eastbourne on April 12th, at the age of 73 years. He was a son of the late Mr. James Stilwell, F.R.C.S., of Uxbridge. Educated at Rugby, he entered the medical profession by apprenticeship to his father. He became later a student at St. Bartholomew's Hospital on Oct. 1st, 1853, and proceeded to Edinburgh to attend the lectures and complete his studies. He was admitted a Member of the Royal College of Surgeons of England and a Licentiate of the Society of Apothecaries in 1857, taking the degree of Doctor of Medicine at the University of Edinburgh in the same year, at the early age of 21 years. After a voyage to Australia he was called upon to assist his father in general practice for two years in his native town, but relinquished it to join his cousin in the management of the asylum in that district. At Moorcroft, Hillingdon, he spent the greater portion of his life, having acted as medical superintendent of that institution for 45 years. He retired in 1906 to live at Eastbourne, where he died after a short illness.

Dr. Stilwell was a man of sterling qualities and a good specimen of the English country gentleman—a man of wide culture and with varied interests in life. In the "seventies" and "eighties" he was a well-known figure in the hunting field. In later years he had taken to golf as a recreation. Until recently he was a regular attendant at the St. Bartholomew's Hospital decennial dinners and at the dinners of the Edinburgh University Club, and was known to a wide circle of medical friends. Of a somewhat reserved disposition, he did not often enter into discussions at the ordinary medical societies, but he was an old and valued member of the Medico-Psychological Association, which he joined in 1862. He was also a frequent attendant at the metropolitan meetings of the British Medical Association. For years he was the local secretary of the Epsom College Benevolent Fund, in which he took a great interest. In his own special department his opinion was sound and practical. Those who have been closely associated with him learnt much from him and found that under the cloak of his somewhat austere manner was concealed one of the kindest hearts. He had also a fund of humour about him and was able to tell a good story.

Feeling the responsibility of his position in the care of the insane he entered into the lives of his patients and by his example induced others to do their utmost to promote their recovery. He was much liked by his patients and respected by all who knew him. Dr. Stilwell leaves a widow, a son, and three daughters to mourn their loss. The funeral took place at Hillingdon on April 16th in the presence of his son and sons-in-law, and many others.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Georg Schuldheis, formerly *docent* of psychiatry in the University of Upsala.—Dr. Dillon Brown, professor of children's diseases in the University of Vermont.—Dr. Pedro Almeida Magalhães, professor of medical pathology in the University of Rio de Janeiro.—Dr. Granier, a well-known and very popular medical councillor in Berlin.—Dr. A. Friedlowsky of Vienna, a former prosector under the eminent professor of anatomy, Dr. Hyrtl. His age was 74.—Dr. E. Kufferath, professor of clinical midwifery in the University of Brussels.—Dr. V. F. Voskressenski, professor of clinical surgery in the University of Kharkoff.—Dr. Karl Hotz, formerly professor of ophthalmology in the Rush Medical College, Chicago.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the quarterly examination in Practical Pharmacy held on April 15th, the following gentlemen were approved:—

Harold Ernest Bloxsome, Durham University and St. Bartholomew's Hospital; Algernon Edgar Percy Cheesman, Guy's Hospital and private study; William Noel Child, M.A. Cantab., Cambridge University and St. Thomas's Hospital; John Stanley Cocks, Guy's Hospital; Anthony D[illegible] phen Ormon Dolan, Leeds Univers[illegible] y's Hospital; Aubrey Scott Gillett, [illegible] Noel Hodges, B.A. Cantab., Cambrid[illegible] ital; Herbert Arnold Lake, M.R.C[illegible] spital; John Rhodes Liddell, She[illegible] ichard Neil [illegible] illip Stanley [illegible] Findlin Maw, [illegible] University; John Francis O'Malley, L.R.C.P.I., L.R.C.S.I., L.M. Dublin, [illegible] Middlesex [illegible] Clinton Palmer, St. Mary's Hospital; [illegible] Roe, St. [illegible] Hospital; [illegible] B.A. [illegible] versity and [illegible] Hospital; [illegible] Taylor, Guy's Hospital; Percy Boyd Wallis, Cambridge University and St. Bartholomew's Hospital; John Murray Weddell, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Arthur Donald John Bedward Williams, B.A. Cantab., Cambridge University and Guy's Hospital; and Leslie Douglas Wright, Guy's Hospital.

FOREIGN UNIVERSITY INTELLIGENCE.—*Bologna*: Dr. Gino Norsa and Dr. Giuseppe Poggi have been recognised as *privat-docenten* of Internal Pathology.—*Bonn*: Dr. Karl Vogel, *privat-docent* of Surgery, has been granted the title of Professor.—*Breslau*: Dr. Bruck has been appointed Chief Medical Officer of the Dermatological Clinic in place of Professor Zieler who goes to Würzburg.—*Cornell*: Dr. Graham Lusk, of the University and Bellevue Hospital Medical College, has been appointed to the chair of Physiology.—*Cracow*: Dr. Stanislaus Anton Braun, *privat-docent* of Midwifery and Gynæcology, has been granted the title of Extraordinary Professor.—*Freiburg*: Dr. K. Gauss has been recognised as *privat-docent* of Gynæcology and Midwifery.—*Halle*: Dr. Richard Freund, *privat-docent* of Gynæcology, has been granted the title of Professor.—*Harvard*: Dr. Charles V. Chapin has been appointed Lecturer on Hygiene.—*Heidelberg*: Dr. Arnsperger, *privat-docent* of Medicine, has been granted the title of Professor.—*Königsberg*: Dr. Walter Kruse of Bonn has been appointed Professor of Hygiene in succession to Dr. Pfeiffer.—*Moscow:* Dr. N. J. Pobiĕdinski, *privat-docent* of Midwifery and Gynæcology, has been appointed Extraordinary Professor.—*Naples:* Dr. Pio Marfiori of Pa [illegible] fessor of Materia Medica and [illegible] —*Prague (Bohemian University)* [illegible] Dr. Josef Znojemski have been recognised as *privat-docenten* of Surgery.—*Rome:* Dr. Luigi Tomellini has been recognised as *privat-docent* of Forensic Medicine.—*Vienna:* Dr. Alfred Exner has been recognised as *privat-docent* of Surgery.—*Würzburg:* Dr. Karl Zieler of Breslau has been appointed Extraordinary Professor of Dermatology.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON).—A course of eight lectures on the Experimental Evidence relating to Variation and Heredity and its bearing upon the Problems of Evolution will be delivered by Mr. George P. Mudge, lecturer on biology, commencing on Tuesday, May 4th, and following Tuesdays at 10.30 A.M. The lectures will be delivered in the Biological Theatre of the college. All students of the University are free to attend. Members of the profession will be admitted on presentation of their address cards.

THE ROYAL NATIONAL ORTHOPÆDIC HOSPITAL.—On April 20th H.R.H. Princess Alexander of Teck opened the new out-patient department and nurses' home for 50 nurses in connexion with the Royal National Orthopædic Hospital in Marylebone. The hospital, which has entrances in Bolsover-street and Euston-road, is the outcome of the amalgamation of the late National Orthopædic Hospital, Great Portland-street, upon the site of which the new hospital is in course of erection, with the Royal Orthopædic Hospital, Oxford-street, and the City Orthopædic Hospital, Hatton Garden. The in-patients of these institutions are at present housed in Charing Cross Hospital, but the Royal National Orthopædic Hospital will, when completed, contain 213 beds for their reception. King Edward's Hospital Fund has granted £10,000 towards the new buildings, besides an annual contribution of £2000.

THE SEASIDE CAMPS FOR LONDON WORKING BOYS.—An admirable association every year sends away to a seaside camp for a week or fortnight's holiday a large number of London working boys. The camp is held at Bexhill, and last year as many as 2917 lads were sent away, that number being 400 in excess of the number sent in 1907. The amount of good done by this society is undoubtedly very great. Were it not for the camps organised by this and other institutions many a lad would spend his holiday in loafing about the streets from sheer inability to afford the expense of getting out of town. And besides the physical advantages of good food and clean air which the camp affords, there is also the inestimable benefit of being under discipline, an advantage which the working lad, compared with the boy of the upper classes, seldom gets. The latter when he goes to a public school finds himself under a discipline which is most beneficial. He learns at first that he is not as good as or better than anyone else, but that he is quite inferior. As he gets older he finds that he is improving and finally, having served, he learns to rule. But a board school education does not teach this. Seaside camps, then, are a valuable method of training and deserve all support. Every boy who is admitted has to contribute according to his means towards expenses, but of course that is of necessity only a small part of the actual cost. Contributions may be sent to the secretary, Mr. P. Abel Bloxham, 23, Northumberland-avenue, London, W.C., or to Messrs. Cocks, Biddulph, and Co., 43, Charing Cross, London, W.C.

PORTHCAWL REST.—While on the north coast of Wales there are several well-equipped convalescent homes, there is only one, that at Porthcawl, in the southern counties of the Principality. The reason for this is, no doubt, to be found in the fact that whereas the majority of those who make use of the northern institutions come from the midland counties of England, even as far distant as Birmingham, the number of persons who go to the Porthcawl Rest from the English counties is very small indeed. In 1908, of the 1335 patients treated there only 27 came from outside South Wales. The Rest was founded in the year 1878, when 33 patients were admitted, and year by year it has been necessary to find accommodation for an increasing number. So popular indeed has the institution become that the managing committee has had to make a rule that except in special circumstances a patient cannot be admitted who has been in the Rest during either of the two previous years. Before this rule was made a large number of "annual visitors" kept out urgent convalescent cases or those who had never been in the home before. The institution is managed upon very economical lines, for the weekly cost per patient during 1908 averaged only 10*s.* 9*d.*, and the cost of food, fuel, and washing was less than 7*s.* per patient weekly. Enlargements are now being carried out at a cost of some £9000, towards which sum all but £2500 have been subscribed, but with such a record of useful service there ought to be no difficulty in securing that amount.

HOSPITAL SATURDAY FUND.—The annual public meeting in support of the Hospital Saturday Fund was held at the Mansion House on April 17th, Sir Savile Crossley being in the chair in the absence of the Lord Mayor. The chairman said that "records" had been achieved during the past year in the amounts collected and distributed and in the reductions of working expenses. The income of the Hospital Saturday Fund last year was £29,830, of which 199 London firms had each collected £25 or upwards. He suggested that some of the 200 empty hospital beds in London might be opened to paying patients. Canon Horsley moved the adoption of the report, which was seconded by the Mayor of Finsbury and carried. Dr. T. D. Acland proposed a resolution approving the measures taken for the prevention and treatment of tuberculosis by the Hospital Saturday Fund, which had devoted a sixth of its income to those objects. He urged upon the supporters of the Fund the importance of giving advanced cases of the disease a place of refuge apart from the Poor-law institutions. Dr. A. P. Gibbons, in seconding, remarked that the Government should be more active in inspecting meat and dairies, and Dr. T. Gambier also supported the resolution, which was carried.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—The annual provincial meeting of this society will be held at Torquay on Saturday, May 8th, at 4.30 P.M. A reserved corridor carriage will leave Paddington station on the 11.50 train. Owing to the exertions of members of the council residing at Torquay and of the medical profession of Torquay excellent arrangements of an inexpensive character have been made for the reception of Fellows and guests at the Grand Hotel. An attractive programme has been arranged for the following day, when members will have the opportunity of visiting the South Devon Moors or of playing golf at Stover. Fellows may bring ladies of their family as guests and are also allowed to bring medical guests, for whom the hotel expenses will be charged at the same rate as for the Fellows—namely, one guinea each from Saturday afternoon to Monday morning, including all meals (excepting lunch on Sunday). It is anticipated that there will be a very large gathering of Fellows, and they are requested to communicate with one of the honorary secretaries, Dr. S. Sunderland, 11, Cavendish-place, London, W., and Dr. F. A. de T. Mouillot, Eton House, Harrogate, at once as to the probability of their being present, and to give notice to the hotel if they wish to take advantage of the inclusive terms already mentioned.

SANITARY ASSURANCE ASSOCIATION.—The twenty-eighth annual meeting of the Sanitary Assurance Association was held on April 19th at the offices, 7, Pall Mall, the Presi [illegible] who [illegible] subm [illegible] criticise the sanitary arrangements at the Franco-British Exhibition, and efforts were made to obtain a sanitary section, though without success. But the association itself exhibited plans, illustrative of its work, for which the international committee of judges had awarded a gold medal. On the subject of the exhibition the report said: "The authorities were slow to admit that the sanitary arrangements were other than satisfactory, but thanks to the *Times*, THE LANCET, and other papers, the sanitary condition of the exhibition continued to be the subject of much criticism up to its close, and some improvements were made, though they were far from adequate. The President of the Local Government Board himself looked into the matter and promised in the House of Commons that he would not lose sight of the subject. It may be reasonably hoped that adequate lavatory accommodation will be provided in future exhibitions." The chairman proposed the adoption of the report, which was seconded by Sir William Chance, and carried unanimously. Mr. Mark H. Judge proposed, and Mr. F. A. Gane seconded, the re-election of Sir William Chance and Dr. Hugh Roger-Smith as members of the council, which was carried.

INSTITUTE OF CHEMISTRY.—In the March and April examination in the chemistry of food and drugs, and of water, the following passed: T. Cockburn, C. E. C. Ferrey, P. A. W. Self, B.Sc. Lond., and F. F. Shelley.

THE London County Council has resolved and ordered that Section 55 of the Public Health (London) Act, 1891, with respect to the notification of infectious disease, shall apply, in the Administrative County of London, to the diseases known as glanders, anthrax, and hydrophobia in man. The Order, which has been duly approved by the Local Government Board, will come into operation as from and including April 26th.

PRESENTATION TO A MEDICAL PRACTITIONER.—Mr. T. Torkington Blease, M.R.C.S. Eng., L.S.A., who is the medical officer to several societies to which he was appointed 52 years ago, has recently resigned his appointment as medical adviser to the Great Central Railway Company's Provident Society (Altrincham District) after 45 years' service. As a mark of their esteem for Mr. Blease the members of the society have presented him with an illuminated address.

THE LATIN-AMERICAN MEDICAL CONGRESS.—During the month of January a meeting was held in the buildings of the National University of Asuncion. The meeting was composed of medical men and had been called by Dr. William Stewart for the purpose of forming a national committee to deal with the best way of making known the forthcoming Latin-American Medical Congress and the International Hygiene Exhibition which is to form an annex thereto, so that Paraguay might take a worthy part therein. The congress will be held in Rio de Janeiro throughout the first week of August. The Paraguay committee will be constituted as follows:—President: Dr. William Stewart. Vice-President: Dr. Juan B. Benza. Secretary: Dr. Manuel Perez. Members: Dr. Fernando Garitti, Dr. Cayetano Masi, Dr. Luis Zanotti Cavazzoni, Dr. Justo P. Vera, and Dr. Eduardo A. Romero y Bartolomé Coronel. These congresses, which are held every two years, are attaining great proportions and are awakening an interest which is a stimulant to the progress of the medical sciences in Latin-American countries. The first congress was held in Santiago, the second in Buenos Ayres, the third in Montevideo, and the fourth, as mentioned above, is to be held in Rio de Janeiro.

UNIVERSITY OF OXFORD.—The Master and Fellows of University College, upon the report of the examiners, have awarded the Radcliffe Prize for 1909 to Arthur F. Hertz, D.M., Magdalen College, assistant physician, Guy's Hospital, for his dissertation upon "The Physiology and Pathology of the Movements of the Intestines." The College desires to call attention to a statement in the report of the examiners to the effect that original work, in each case fully worthy of the prize, was submitted by the following candidates: Alexander G. Gibson, D.M., Christ Church; and Arthur C. Inman, B.M., M.A., Wadham College. The next award of the prize will be in 1911.—At a meeting of the Radcliffe electors Martin William Flack, B.M., M.A., Keble College, demonstrator in Physiology at the London Hospital, was elected to a Fellowship under the trust on the report of the examiners.—The summer dinner of the Oxford Graduates' Medical Club will take place on Thursday, May 20th, at the Hotel Cecil. The chair will be taken by the President, Sir W. S. Church, Bart., K.C.B., and among the guests who have accepted the club's invitation to attend are: The Chancellor of the University, the Master of University College, the Rector of Lincoln College, the Provost of Queen's College, and the two University Members of Parliament.—Six lectures on the History of Greek Medicine up to the age of Hippocrates will be delivered at the Examination Schools by Joseph F. Payne, D.M., Hon. Fellow of Magdalen College, on Wednesdays and Fridays at 5.45 P.M. beginning on May 5th.

ASSOCIATION OF MEDICAL MEN RECEIVING RESIDENT PATIENTS.—The annual general meeting of this association was held on April 14th at 26, Bryanston-street, W., Dr. T. Whitehead Reid in the chair. Dr. G. E. J. Crallan was elected President for the ensuing year, and Dr. Dove, Dr. Haynes, Dr. Still, Dr. Reid, and Dr. Walsh, Vice-Presidents. The annual report presented by the secretary was read and received. It showed a very satisfactory increase in the work of the association, the number of patients placed being nearly double that of 1907. The demand for membership, however, was shown to continue to be higher than is commensurate with the applications received from patients. The report showed that in spite of this encouraging evidence the association was far from receiving the support which it deserves at the hands of the profession as being an organisation of medical men formed for the purpose and established on the principles of self-help and mutual support; also that it had nothing in common with commercial agencies, as any profits made became the property of the association as a whole. The financial position which enabled the subscriptions to be lowered last year shows that in spite of this fact, and with increased advertising and clerical expenses, the balance brought over at the end of 1908 was almost double that of 1907. Votes of thanks to the chairman and honorary secretary brought the meeting to a close.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The End of the Easter Holidays.

THE House of Commons resumed on Monday, April 19th, after the Easter holidays. However, for the first two days after the resumpt of business the proceedings were very quiet. The number of questions on the notice paper was small and none of them attracted much interest. It was the middle of the week before the normal Parliamentary activity was reached, as Members wherever possible prolonged their holidays for a day or two. The House of Lords resumed on Tuesday, April 20th.

Asylum Officers' Superannuation Bill.

A Select Committee of the House of Commons to take evidence bearing on the Asylums Officers' Superannuation Bill has been nominated. It consists of Sir WILLIAM COLLINS, Mr. HAZLETON, Mr. JOHN HENDERSON, Mr. HORNIMAN, Mr. W. PRIESTLEY, Mr. T. RICHARDS, Mr. ROCH, Mr. STANIER, and Sir JOHN BATTY TUKE.

Street Accidents Caused by Vehicles.

The return showing for England and Wales the number of accident resulting in death or personal injury known to the police to have bee caused in streets, roads, or public places by vehicles during the perio from May 1st to Dec. 31st, 1908, is detailed and elaborate. The grand total of these accidents is 17,973, of which 746 had a fatal termination Motor-cars and motor cycles were responsible for 4499 accidents, o which 198 proved fatal. Motor omnibuses caused 1156 accidents, o which 50 resulted in death.

Deaths of Infants in Poor-law Institutions.

A memorandum by the Local Government Board on deaths among infants in Poor-law institutions has been submitted to the House o Commons. The general conclusion of the memorandum is that all th information in the possession of the department goes to show that, with exceptions which are comparatively few and decreasing, the condition o the Poor-law maternity wards is satisfactory, and that as regards the young children one of the most striking features of the ordinary Poor law nursery is the healthy appearance of the "permanent" children a compared with the newcomers.

The Medical Acts Amendment Bill.

Opposition will be offered to the Medical Acts Amendment Bill if a attempt is made by Mr. COOPER to obtain a second reading for hi measure. Six motions for the rejection of the Bill have been put down on the order paper. These motions stand in the names of Mr. JOYNSON HICKS, Mr. WILES, Mr. ESSEX, Sir HENRY KIMBER, Sir HENRY COTTON and Mr. GEORGE GIBBS

HOUSE OF COMMONS.

WEDNESDAY, APRIL 21ST.

The Return of Tuberculous Patients from Canada.

Mr. WEIR asked the President of the Board of Trade whether, havin regard to the fact that under Canadian law emigrants from this countr who developed consumption within two years after arrival in Canad were required to return, he was now in a position to state what precau tions had been taken by steamship companies, in vessels sailing fror Canadian ports to the United Kingdom, to isolate consumptiv passengers in such a way as to prevent other passengers running th risk of infection.—Mr CHURCHILL replied: The steamship companie inform me that persons returning from Canada on account of con sumption are carefully isolated during the voyage and kept apart fron the other passengers.

Appointments.

[illegible] ublic Institutions, [illegible] this column, are [illegible] ected to the Sub- [illegible] y morning of each [illegible]

ELL[illegible]

FEL[illegible]

TLF[illegible]

FOY[illegible] ticularly to Coventry County Court.

FRENCH, MARGARET DOUGLAS, M.B., B.S. Durh., has been appointed Junior Assistant Medical Officer at the North Riding Asylum, Clifton, York.

GRIMBLY, RICHARD HENRY, M.R.C.S., L.S.A., has been appointed *Medical Officer for the Ipplepen District, by the Newton Abbot* (Devon) Board of Guardians, for three years.

[illegible] Edin., has been appointed one [illegible] Workmen's Compensation Act, [illegible] 49, and to be attached more [illegible] Hythe, Romney, Deal and [illegible]

[illegible] B. Birm., has been appointed [illegible] District Council.

[illegible] d House Surgeon [illegible]

[illegible] B.S. Lond., D.P.H. [illegible] Statistics of the [illegible]

[illegible] Lond., M.R.C.S., [illegible] con to the North [illegible]

[illegible] s been appointed [illegible] t of the Liverpool Maternity Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

[illegible] lodging.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £75 [illegible]

[illegible] London, S.E.—House Physician for nine months. Salary at rate [illegible]

LAP[illegible]

FOL[illegible]

HOLLAND (LINCS.) C[illegible] Medical Officer. [illegible]

[illegible] DISPENSARY.— [illegible] with residence, [illegible]

[illegible] House Surgeons.

[illegible] use Surgeon for [illegible] with board and residence.

JERSEY GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer. Salary £100, with board and lodging.

LEICESTER INFIRMARY.—Assistant House Physician for six months. Salary at rate of £60 per annum, with board, apartments, and washing.

LINCOLN MENTAL HOSPITAL, The Lawn, Lincoln.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, &c.

LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

MIDDLESEX COUNTY ASYLUM, Napsbury, near St. Albans.—Fourth *Assistant Medical Officer. Salary £160* per annum, with apartments, board, washing, and attendance.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Junior Resident Medical Officer. Salary £50 per annum, with board and residence.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with board, lodging, and washing.

[illegible] MARY.—Second Assistant Resident [illegible] te of £100 per annum, with apart- [illegible]

[illegible] PITAL, Tottenham, N.—House Sur- [illegible] House Surgeon, and Junior House [illegible] Salary of two former at rate of £75 [illegible] rate of £40 per annum, with residence, board, and laundry.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Medical Officer in Charge of Electrical Department. Salary £50 per annum.

ROYAL NAVAL MEDICAL SERVICE.—Examination for 15 Commissions.

[illegible] washing.

[illegible] board.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Physician. Also Assistant Physician.

Y[illegible] Salary £130 [illegible]

Y[illegible] nspector of [illegible]

THE C[illegible]

Births, Marriages, and Deaths.

BIRTHS.

BURGESS.—On April 14th, at Milverton Lodge, Victoria Park, Manchester, the wife of Arthur H. Burgess, of twin sons.

[illegible] oad, Oxford, the wife of [illegible]

[illegible] Fairlight, Hampton Hill, [illegible] B.A., M.D., L.R.C.P., of a daughter.

MACLEAN.—On April 18th, at Tollington Park, N., the wife of Kenneth Maclean, F.R.C.S., L.R.C.P. Edin., of a son.

MARRIAGES.

BURRIDGE—CURTIS.—On April 20th, at St. Joseph's, Highgate Hill, Henry Alfred Burridge, B.A., Trinity College, Dublin, M.R.C.S. [illegible] L.R.C.P. Lond., to Adine Marie, elder daughter of R. L. [illegible] ge Hall, Essex.

[illegible] Christ Church, Lancaster-gate, [illegible] M.S., F.R.C.S., to Florence [illegible] late Arthur Grame Ogilvie, of [illegible]

GRANT—KINGHAM.—On April 17th, at St. Cuthbert's Church, West [illegible] youngest daugh [illegible]

POPE—GRAVENER.—[illegible] Charles Alfred [illegible] Gravener, eldest daugh [illegible] (retired).

DEATHS.

FRASER.—On April 13th, at Tettenhall road, Wolverhampton, John Fraser, M.D., aged 89 years.

NUNN.—On April 13th, at The Gaunt Tower, Kneesworth, Royston, Thomas William Nunn, F.R.C.S.

STILWELL.—On April 12th, at Hanover Lodge, Eastbourne, Henry Stilwell, M.D., aged 73 years.

TAYLOR.—On April 13th, at his residence, Beechwood Hall, Mapperley, Nottingham, Charles Bell Taylor, M.D. Edin., F.R.C.S.E.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PUBLIC HEALTH IN SWAZILAND.

Mr. R. Clark Perkins, Government Medical Officer of Swaziland, in his report for the year 1907-08, which has just been received at the Colonial Office and presented with other papers to Parliament, states that during the period under review there were admitted to the Government Hospital at Mbabane 39 patients, whilst the out-patients numbered 1275. The hospital accommodation is poor, but steps are being taken to improve it. The native does not, as a rule, avail himself to any great extent of the medical treatment provided for him, preferring to be attended by his own medicine man. The greatest use he makes of the hospital is for the extraction of teeth and the dressing of wounds. Latterly, however, there has been an increase of attendance for ordinary ailments, and as education and white influence advance greater advantage will no doubt be taken of the opportunities afforded in this direction. The majority of wounds dealt with are caused by knobsticks or spears. The natives are a peaceable and law-abiding race until the season for beer arrives—i.e., the winter—and if some restrictions were imposed upon the making of the drink there would be fewer cases of murder and serious wounding. In about 75 per cent. of the post-mortem examinations made death was due to wounds or injuries received during or after a drinking bout. Swaziland is, roughly, divided longitudinally into three regions, the higher, middle, and lower. The higher region is from 4500 to 3000 feet; the middle from 2000 to 1500. Both these regions are healthy. In the lower or bushveld region malarial fever is prevalent amongst white and black; particularly was it so during the end of 1906 and the beginning of 1907. A few cases of contagious conjunctivitis were treated in hospital; on occasions whole kraals suffer from this disease. Only two cases of tuberculosis came under treatment, but this cannot be taken as giving a fair estimate of the prevalence of the disease. No small-pox has been reported during the year. The natives have learnt to appreciate the value of vaccination, and it is hoped to carry out systematic vaccination yearly. On one occasion the whole of the Royal kraal, including the young paramount chief, underwent the operation. Syphilis is very widespread indeed. Owing to the great expense of carrying out quarantine regulations the disease is difficult to cope with, and persons suffering from this complaint have every facility for spreading the infection. Some cases have been treated in hospital, but the great majority at their own kraals, where the only thing that can be done to prevent the spread of the disease is to point out the risk of communicating it to others. Every opportunity is taken of warning the natives of this danger. There are a few known lepers in the country, but with the precautionary measures taken it is not anticipated that there is any danger of the disease spreading. There has been a severe epidemic of whooping-cough during the year, whites and natives suffering alike. Amongst the former there were two deaths, but no record is obtainable of the deaths among the natives, though the mortality is known to have been large, even among those under treatment. The natives, as a rule, respond to surgical treatment much better than to medical. Diseases of the lungs are particularly fatal to them. Under the heading of diseases of the skin, ulcers and scabies make up the great majority. For midwifery the natives have their own practitioners, whose methods are of the rough-and-ready description. The Swazi appears to have a knowledge of drugs, and not infrequently gets rid of the fruits of illicit love. One drug used in cases of diarrhœa is most effective. There is no laid-on water-supply in Mbabane, but an abundant and pure supply is available. The sanitary system has been much improved, dry earth-closets being in use in the village, gaol, and police camp. The general public health has been good. The census return shows the European population at 890, and the native population at 84,529.

THYMOL IODIDE AND FERROUS SULPHATE IN THE TREATMENT OF CHRONIC ULCERS.

IN the *Military Surgeon* for April Dr. Mark J. White recommends the use of a dusting powder, containing equal parts by weight of thymol iodide and dried ferrous sulphate, in the treatment of chronic ulcers of the skin. After washing the ulcer with carbolic lotion and removing all crusts from the borders the surface is dried and covered with the powder. As soon as the ferrous sulphate produces a burning sensation the excess of powder is blown off, leaving only a thin adherent film, which is covered thickly with zinc ointment and protected by gauze, strips of adhesive plaster, and a bandage. The dressings should be renewed every 48 hours, care being taken to avoid an excess of the powder which would cause severe pain. Any acute inflammation of the surrounding tissues should first be treated by means of moist antiseptic dressings. If the ulcer is so large that more than six or eight applications of the powder are required its use should be interrupted for four or five days and only the zinc ointment applied in order to avoid over-stimulation of the granulations. This dusting powder is applicable to all varieties of chronic ulcerations of the skin, regardless of their etiology, and it is very serviceable in the treatment of slowly healing bubo-extirpation wounds that so frequently keep men off duty and in hospital for a long time.

J. A. S.—We cannot state exactly what view the General Medical Council would take of the situation if it were brought to its notice, but it is quite likely that a medical man holding such a post might be asked to sever his connexion with the medical profession. Our own opinion is that a medical man should not place himself in such a position as that described by our correspondent.

M.D.—The terms are not necessarily synonymous, but we shall be happy to publish a letter on the matter from our correspondent, if the initials which he adopts are supplemented by his name and address.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

MONDAY.

ODONTOLOGICAL SECTION (Hon. Secretaries—H. W. Trewby, D. P. Gabell, J. Howard Mummery): at 8 P.M.

Paper:

Mr. Harold Simms: Some Experiments on the Action of Formalin and Other Root Dressings.

Casual Communication:

Mr. Harold Chapman and Mr. Ernest Rock Carling: A Case of Round-celled Sarcoma of the Lower Jaw. (The patient will *attend at 7.30 P.M.)*

TUESDAY.

MEDICAL SECTION (Hon. Secretaries—Herbert P. Hawkins, A. M. Gossage): at 5.30 P.M.

Paper:

Dr. O. K. Williamson: Clinical Observations on the Influence of the Vessel Wall on (so-called) Arterial Blood-pressure Readings.

FRIDAY.

CLINICAL SECTION (Hon. Secretaries: Raymond Johnson, H. D. Rolleston): at 8 P.M.

Cases:

Mongols and Conditions that have been Confused with Mongolism—Dr. L. G. Guthrie, Dr. Sutherland, Dr. Morley Fletcher, Dr. Poynton, Dr. Langmead, and Dr. Harry Campbell.

Mr. J. Jackson Clarke: Cases of Congenital Hip Disease treated [illegible]

Mr. [illegible] ubcoracoid Dislocation [illegible] ure of Humerus, [illegible]

Dr. [illegible] rauma.

Dr. [illegible] the Extremities in [illegible] Edema.

Mr. [illegible] Coxa Vara treated by [illegible]

Mr. H. [illegible] W. H. Bowen: Hereditary Transmi[illegible] Foot in Mother and Child; Mother shown at the Clinical Society in 1887.

Paper (at 9.40 P.M.):

Mr. W. Fedde Fedden: Six Cases of Infective Gangrene of the Extremities.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—Clinical Evening. Cases will be in attendance at 8 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

FRIDAY.—5 P.M., Prof. Keith: On Specimens of Cleft Palate and Malformations of the Tongue. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. M. H. MacLeod: Clinique (Skin).

TUESDAY.—4 P.M., Dr. J [illegible]

WEDNESDAY.—4 P.M., M[illegible]

THURSDAY.—4 P.M., Sir [illegible] rgical).

FRIDAY.—4 P.M., Dr. J. [illegible] roat).

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles). [illegible] edical Out-patient (Dr. T. R. [illegible] hen); Eye (Mr. R. P. Brooks). [illegible] Operations (Dr. A. E. Giles). [illegible] r. A. J. Whiting); Surgical [illegible] P.M., Medical In-patient (Dr. G. P. Chappel).

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.

TUE

WE

THU

FRI

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Mr. Stuart-Low: Accessory Sinuses.
FRIDAY.—3.45 P.M., Lecture:—Mr. Stuart-Low: Accessory Sinuses.

OPERATIONS.

MONDAY

Thomas

Middles

Samarit

A.M.),

(2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-

(9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 22nd, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain fall	Solar Radio in Vacuo	Maximum Temp. Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks.
April 16	29 90	S.W.	...	94	64	48	47	53	Fine
" 17	29 91	S.W	0·02	111	62	48	52	53	Overcast
" 18	29 87	S.W	0 01	111	63	49	55	60	Cloudy
" 19	29 84	S.E.	...	112	68	45	49	50	Fine
" 20	29·89	W.	0·63	112	62	49	48	53	Cloudy
" 21	30 01	E.	...	96	61	45	46	51	Fine
" 22	29·75	S.W	...	115	60	47	49	53	Fine

During the week marked copies of the following newspapers have been received:—*Manchester Chronicle, Aberdeen Journal, Lincolnshire Echo, Sunderland Echo, Glasgow Evening Citizen,*
South
Telegraph,
Yorks
Gazette,
Chelten
Gazette,
Glasgow Evening Times, Aberdeen Evening Express, Bristol Mercury, South Wales Echo, &c.

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Lumleian Lectures

ON

RHEUMATIC FEVER AND VALVULAR DISEASE.

Delivered before the Royal College of Physicians of London on March 23rd, 25th, and 30th, 1909,

By NORMAN MOORE, M.D. Cantab., F.R.C.P. Lond.,

SENIOR CENSOR OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON; PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

LECTURE II.[1]

Delivered on March 25th.

Valvular Disease.

Mr. President, Censors, and Fellows of the College,—It is remarkable that neither in the notes of the Lumleian lectures of 1616, in which Harvey shows that he had attained the conception of the circulation of the blood, nor in his "Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus" of 1628, in which his discovery is fully set forth, is there any allusion to valvular disease. The retardation of the blood in the veins produced by narrowing of the mitral orifice with the consequent dropsy seems to us an illustration of the course of the blood from the right heart through the lungs to the left auricle, and the changes in the pulse produced by disease of the aortic valves demonstrate the continuity of the blood stream from the left ventricle to the remotest arteries, but Harvey does not seem to have noticed the effects on the circulation of any alterations in the valves, or, indeed, any other than the normal condition of the valves. There is only one allusion to disease of the heart, and that an obscure one, in the "De Motu Cordis." Andreas Laurentius is mentioned as quoting the case of a man the left ventricle of whose heart was found post mortem to contain turbid, fœtid, acrid fluid. Laurentius thought that some turbid urine during the patient's life had therefore come from the heart. It seems possible that the disease of which fainting was a symptom may have been ulcerative endocarditis. Harvey evidently was rather incredulous about the observation.

Moses from Pisgah saw the good land which he longed to enter stretched before him, but was never to know its plains and hills, its deserts, its forests, and its towns. So Harvey, having seen clearly the course of the circulation and the precise normal action of the heart, was not permitted to see further into the land of truth he had obtained for mankind, nor was it till nearly a hundred years after he lectured to this College that a knowledge of valvular disease began to grow up.

The belief in the existence of polypus of the heart, about which so much was written in the eighteenth century, shows that the consequences of the doctrine of the circulation of the blood were not grasped for a long time. These polypi, which are very clearly described by Tulpius in 1641, with a beautiful drawing, and some twenty years later in Malpighi's "Dissertatio de Polypo Cordis," were clots sometimes ante-mortem, as in that which was removed from an aneurysm by Borelli, and sometimes post-mortem clots, as in those described as occurring in the right ventricle. Huxham in 1742 described to the Royal Society polypi in the hearts of two sailors in language which shows that he failed to grasp the impossibility of circulation with such obstructions:—

> [illegible] were shot a great way into the subclavian and carotid arteries but very little down the aorta.[2]

Matthew Baillie's demolition of the doctrine of polypi[3] may perhaps be regarded as the final step in the understanding of Harvey's discovery of the circulation:—

> Polypus consists of a mass of coagulable lymph, which fills up some [illegible]

Thus it took from 1628 to 1795 for Harvey's discovery to be thoroughly understood in the world of medicine. The above passage in Matthew Baillie's "Morbid Anatomy" may be regarded as the final preparation for the accumulation of knowledge on valvular disease. A few observations on disease of the valves may be found in earlier medical books, of which the best is perhaps that of Dr. James Douglas.[4]

> [illegible]

After describing an adherent pericardium and the normal right side of the heart, Douglas mentions the increase in size of the left ventricle and says:—

> The valvulæ called mitrales placed at the orifice of this ventricle are [illegible]

Everyone who reads this account will perceive how very near Douglas went to the discovery of the uses of auscultation. The loud noise which was to be heard proceeding from the cardiac region was probably a systolic murmur due to the rigidity of the aortic valves which was discovered post mortem. Huxham, in the paper which I have already quoted, says that in one of the sailors with polypi which he discovered post mortem, "I observed one of the semilunar valves of the aorta beginning to grow bony." There was, however, no real understanding of valvular disease till the time of Laennec and of his school.

I have maintained in my first lecture that endocarditis often producing permanent valvular disease is the central feature of rheumatic fever. What evidence is there of the extent in the heart of this endocarditis? Excluding cases of ulcerative endocarditis, the presence post mortem of disease of the mitral valve is the best obtainable anatomical evidence that the subject of the necropsy has had rheumatic fever. The mitral valve is rarely affected by chronic degenerative change or by syphilis. It may be affected by endocarditis and so deformed in the course of scarlet fever, of gonorrhœa, of influenza, of sepsis, or of pneumonia, but the number of cases due to these conditions taken together is small compared to the number due to the endocarditis of rheumatic fever. This endocarditis sometimes affects a large area of the interior of the heart. A woman, aged 19 years, whom I examined post mortem, was a good example of this. Her heart weighed 19 ounces and the pericardium was universally adherent. The endocardium of the right auricle was normal. The tricuspid orifice was wider than natural; the edge of the valve was greatly thickened and studded on its upper surface with numerous minute growths. One part only was free—a quarter of an inch at the anterior end of that part of the valve which is attached to the ventricular septum. At the root of the cords which proceed from the anterior part of the ventricular septum to the valve were numerous minute growths. The point of origin of this group of cords —they have no projecting musculi papillares—was thickened and these minute growths were on this thickened base and on the lower part of the cords. The other vertical cords showed no thickening, but there were some transverse thickened cords and a little roughness on the under surface of the valve. There was a small linear thickened patch in the right ventricle on the septum. Two of the pulmonary semilunar valves were adherent to one another and on each of these were numerous minute growths and one more prominent one. There were several much thickened patches of endocardium in the left auricle and there was a small rough patch on the auricular septum. The mitral orifice was somewhat dilated. The valve was fringed by a thick border of minute growths and all the tendinous cords were thickened. There was a general thickening of the aortic flap of the mitral valve. On the upper and anterior part of the ventricular septum in the left ventricle there was a thickened patch as large as a silver penny of Queen Victoria. The aortic valves were incompetent, each had numerous thickly-set small growths on the outer surface below the edges of the valves and with a connecting fringe of growths from valve to valve. In the hollows between the valves there were also minute growths. The valves were adherent to one another and were slightly everted. There were no signs of ulceration in the endocardium and no emboli in the viscera. This was an example of very widespread endocarditis. Taking 20 other cases (ten males and ten females) examined by me post mortem in which there was a probable history of rheumatic fever, as they came in my notebook, the following was the evidence of the area of endocardium affected :—

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[1] Lecture I. was published in The Lancet of April 24th, 1909, p. 1159.

[2] Philosophical Transactions, vol. xlii., 1744.

[3] Morbid Anatomy.

[4] Philosophical Transactions, 1715.

Males.

10. Right auricle thickened patches, tricuspid, mitral, wall of left ventricle, aortic valves showing thickening.
19. Tricuspid, mitral, aortic valves showing signs of old endocarditis.
19. " " " " " " " "
21. " " " " " " " "
24. " " " " " " " "
27. Tricuspid, wall of right ventricle, mitral, showing signs of old endocarditis.
28. Mitral, wall of left auricle, showing signs of old endocarditis.
31. Mitral, aortic valves showing signs of old endocarditis.
35. " " " " " " "
37. Tricuspid, mitral, wall of ventricle, aortic valves showing signs of old endocarditis.

Females.

5. Tricuspid, mitral thickened.
8. Left auricle, mitral, left ventricle, aortic thickened.
15. Mitral valve deformed.
16. " " "
20. Wall of right auricle, tricuspid, wall of right auricle, mitral *thickened.*
20. Mitral, wall of left ventricle, aortic valve deformed.
21. Mitral, aortic valve deformed.
21. Left auricle, mitral, aortic valve deformed.
29. Mitral, inside of outer wall of ventricle, valve deformed.
44. Tricuspid, right ventricle, left auricle, mitral valve deformed.

In none of the males were the signs of endocarditis confined to a single region, and in only two of the females was the mitral valve the only affected area. The first case shows how very widespread an endocarditis may be in rheumatic fever, and the others support the view that endocarditis tends to be widespread on the left side of the heart and sometimes extends to the right side.

Specimens of hearts are now gradually accumulating in museums in which naked-eye appearances resembling those of the endocarditis of rheumatic fever are proved to be due to various bacilli. Thus, in a male patient, aged 39 years (under the care of my colleague, Dr. J. A. Ormerod), who was ill for three months and whose necropsy I happened to witness, extensive recent endocarditis involving the mitral valve was found and gonococci were cultivated from the growths. The patient had died from endocarditis, which was a part of gonorrhœa. Here is the heart. There are large, soft, recent growths on the aortic valves with considerable destruction. In another heart showing endocarditis belonging to our collection at St. Bartholomew's Hospital, which I show you, a pneumococcus was cultivated from the growths, and in another the bacillus coli was found in abundance in the endocardium. The history of a few cases in my wards in which valvular disease due to an acute endocarditis was found and in which the only acute disease of the patient's past history was small-pox, added to the fact that pericarditis occurs in small-pox, makes it seem probable that an endocarditis may sometimes be due to the organism of variola. A passage in the Loimologia[5] of Dr. Nathaniel Hodges may, perhaps, point to what is in itself likely, the occurrence of endocarditis in plague :—

> I was sent for to a youth of about 14 years of age who had continued free of the infection, after his mother and the rest of the family had been visited by it, when all on a sudden he was seized with such a palpitation at heart that I and several others could hear it at some considerable distance, and it continued so to do till he died, which was soon after.

It was in the eager search for knowledge on this and other parts of the morbid anatomy of plague that my former clinical clerk, Dr. C. T. Raikes, lost his life in Singapore and I cannot allude to the post-mortem appearances of plague without commemorating the keen observation and intelligent devotion to the increase of knowledge of this young Oxonian.

The course of the following obscure case showed an unexpected occurrence of endocarditis and subsequent valvular disease.

> A boy, aged 10 years, was admitted to St. Bartholomew's Hospital with a rash on his face, legs, and arms, and ulcerated lips and some sore throat. The spots were pimples with bullæ in the centre and gradually faded away and the mouth healed. The throat gave a pure culture of streptococcus. A cultivation of his blood gave a growth in broth of yellow staphylococcus and some streptococci. The temperature was 100° for two days, and then became normal. On his admission, on March 8th, 1907, his heart sounds were normal and so continued till April 8th. Then a short presystolic murmur was audible just within, and a little below, the left nipple, and a well marked thrill was felt at the apex. On April 22nd the thrill [illegible] murmur was fainter. The rash was most [illegible] nature of the disease was obscure I aske[illegible] express their opinion on it. Dr. Ormerod, [illegible] J. H. Drysdale were of opinion that the co[illegible] and Dr. S. West suggested that the rash belonged to the class of bullous erythema. The murmur and thrill were present when the patient left the hospital, otherwise well, on April 26th.

There were no joint symptoms of any kind and no chorea followed the illness. It was probably an example of endocarditis and consequent valvular disease originating in some sepsis. I suspect that cases of what is called heart failure in influenza may sometimes be due not only to affection of the myocardium but to endocarditis which may sometimes interfere seriously with the action of the valves without causing a murmur. Dr. T. J. Horder has demonstrated the presence in the endocardium of the influenza bacillus. There are two specimens in the St. Bartholomew's museum. In lobar pneumonia it is not common to find clinical evidence of endocarditis, but there is no doubt that the pneumococcus is a cause of endocarditis. Here is a heart showing growths on the tendinous cords and edge of the mitral valve from which pneumococci were cultivated.

It is interesting to observe that in these cases as in those of *ulcerative endocarditis valvular disease, often the result* of long past endocarditis of rheumatic fever, *is* often present, as if an already damaged endocardium formed a favourable ground for the growth of streptococci and *other* organisms.

The view of 30 years ago was that endocarditis was an occasional complication of rheumatic fever. I have tried to show that endocarditis is its central feature. It is clear *that* endocarditis has many true species, some determined bacteriologically, some resting their specificity on clinical observation alone. *Fresh species will certainly be discovered.* The nature of the endocarditis of rheumatic fever seems at present to rest on clinical observations alone. It is none the less a good working species. Let us proceed to examine its effects upon the heart.

I may begin the subject by showing you these two specimens. This heart is that of a woman, aged 20 years, whose post-mortem examination I lately attended. It shows some old thickening of the cords and edges of the flaps of the mitral valve and on one flap a small raised red patch of recent endocarditis. Seeing that the uterus contained a fœtus I asked the demonstrator to open its heart and we saw a similar patch of recent endocarditis on the mitral valve of the fœtal heart. I have myself never heard a murmur which I could attribute to an alteration of the fœtal heart sounds and having once asked the late Dr. Matthews Duncan if he had he said that he had never heard any sound from which he could diagnosticate fœtal endocarditis. The heart I have shown you is the only one in which I have ever seen a true fœtal endocarditis in progress. It was clearly part of the maternal infection and it is interesting to observe that while congenital malformations described as due to fœtal endocarditis are generally on the right side of the heart in this case it was the mitral valve that was affected exactly as it was in the mother.

The tricuspid valve is found to show signs of endocarditis in a good many cases post mortem. Thus it was affected in nine out of the 20 cases mentioned above. I do not agree with those who maintain that tricuspid disease can be frequently discovered by auscultation. I incline to doubt any determination of it during life in which pulsation of the veins of the neck has not been clearly made out. And here I wish to point out the importance of teaching men as a matter of habit never to arrive at the diagnosis of any form of valvular disease from physical signs alone. Too great care cannot be given to the minute study of the physical signs in every heart, and to compare the observations of different days greatly assists to the complete knowledge of the valvular state. If the observer will write down precisely what he hears and on the next occasion do the same without looking at his former note he will learn whether what he hears is constant and if inconstant how it varies. But when the precise physical signs have been made out they must be considered in relation to the movements of the heart, to the character of the pulse, and to the general state of the patient before an opinion is expressed on the nature of the valvular disease. The most striking illustration of the importance of the pulse in relation to the interpretation of a murmur occurs when obstruction at the orifice of the pulmonary artery is the sole lesion. The loud systolic murmur audible is not always distinctly plainer at the second left intercostal space than at the right or on the sternum, and it is to be heard over a considerable area of the chest. It might easily be mistaken for an indication of obstruction at the aortic orifice but that the pulse is absolutely normal. When this is remembered the determination of obstruction at the pulmonary valves becomes one of the most certain among interpretations of cardiac murmurs. A minute search will show faint traces of affection of the right side of the heart due to rheumatic fever in a proportion of cases, but such are very rarely indeed to be found on the pulmonary valves, and still more rarely in sufficient size to cause a murmur. I have never met with an example of regurgitation at the pulmonary orifice. The clinical evidence of affection of the right heart in rheumatic fever is very small.

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[5] Second edition, London, 1720.

The left side of the heart and particularly the mitral valve, or the mitral and aortic valves, and rarely the aortic valves alone, are the parts of the endocardium most often deeply affected in rheumatic fever, while the degenerative changes of later life and the effects of syphilis are more often seen in the aortic valves. We speak of mitral obstruction or stenosis and of mitral regurgitation. Since mitral regurgitation is often due to thickening and shortening of the tendinous cords, and since that condition is often associated with thickening of the edge of the valve and the projection of minute growths from it, it is clear that in many cases in which the chief effect is regurgitation some of the physical signs of obstruction may be present, while, on the other hand, extreme narrowing of the orifice by adhesion of the flaps of the valve to one another, though its physical signs are nearly the same as in the other case, has a different effect on the heart and on the circulation as a whole. The commonest physical signs of mitral obstruction are a thrill confined to the region of the apex beat and a presystolic murmur heard in the same region, and these are accompanied by an unequal pulse of diminished volume. The thrill is often systolic in time; sometimes presystolic or including both periods. It indicates some rigidity of the edge of the mitral valve and is never absent in that form of mitral obstruction which is due to the firm adhesion of the two flaps of the valve. A thrill may, however, be present without this adhesion, when there is a thickening of a part only of the edge of the valve or a rigid projecting growth upon its edge. If there is no localised thrill at the apex there is no mitral obstruction. If at the same time a murmur thought to be presystolic has been heard at the apex, further investigation must be made, and it will generally be discovered that it is in fact diastolic and is due to aortic regurgitation, even though it may for a time have been heard at the apex and not at the right base. Changes of position, raising of the arms, and the administration of nitrite of amyl will assist the observer.

Is a definite thrill at the apex ever due to any other cause than mitral obstruction in some form? The answer to this question is that such a thrill sometimes occurs when no other change is present but rigidity of one or more aortic valves. In some such cases the thrill may be felt more plainly still at the second right intercostal space, though definite at the apex. In others, though a thrill is only to be felt at the apex, it is certainly not due to the mitral valve and is due to the aortic valves. A constant thrill felt at the apex only is always present when the flaps of the mitral valve are adherent and thickened and also when a part of the edge of the valve is rigid or a rigid growth projects from it. When a patient has had a systolic murmur loudest at the apex and while the temperature is raised a thrill comes to be felt there which was not there before, it is often the case that adhesion of the mitral flaps has taken place and a permanent mitral stenosis been established. Such permanent stenosis, when it is the immediate issue of an attack of rheumatic fever, embarrasses the heart, but is unaccompanied by any hypertrophy of the left ventricle. Therefore, in a case of mitral stenosis, if there be well-marked hypertrophy of the left ventricle and no chronic interstitial nephritis, other valvular disease, or adherent pericardium, it may be assumed that the primary effect of the endocarditis was mitral regurgitation, that this was the cause of the hypertrophy, and that adhesion to one another of the flaps of the valve was a subsequent event. When mitral stenosis has been proved by repeated examination to be present, and provided there is no chronic interstitial nephritis and it is known that no different valvular lesion existed in the past, and the size of the heart, including the left ventricle, is increased, then, and perhaps then only, may the diagnosis of adherent pericardium be safely made.

Here the importance of examining the heart by means of electric light may be urged. It sometimes gives an exact notion of the nature of the enlargement present. The murmur of mitral stenosis is always the most confined in area of all cardiac murmurs. The murmur of mitral regurgitation is the most widely heard of cardiac murmurs. It is loudest at the apex and generally loud over the whole front of the chest and is audible in the left axilla and at the angle of the left scapula and often over the whole back, but when it is so it is always louder at the angle of the left scapula than at the right supraspinous fossa. Is this widespread area of sound present in every case of mitral regurgitation? To this question a negative answer must be given, for if the heart is acting feebly after a patient has been lying in bed for some weeks the murmur may be very faint and not audible in the axilla or at the angle of the scapula, while a week later, when he has been up and the muscular action of the heart is stronger, while the temperature chart shows that no further endocarditis has taken place, the murmur may easily be heard at the angle of the left scapula.

Here must be considered the question of systolic murmurs which are not associated with any history of endocarditis or with any rise of temperature and which disappear altogether: the murmurs of chlorosis and of anæmic states. These may be heard at the angle of the scapula when they are loud in front. They resemble the systolic murmur of mitral regurgitation, and I believe them to be due to a temporary mitral regurgitation due to the feebleness of parts of the cardiac wall, including the musculi papillares. This hypothesis accounts for their relation to chlorosis and seems to me to rest on a basis of observed fact which is not present to support the hæmic theories. Such murmurs should be regarded as indicating a temporary mitral regurgitation, and the œdema of the feet which occurs in those who have such murmurs as due to the valvular defect.

Is a systolic murmur loudest at the apex always a proof that a patient has mitral regurgitation? This cannot be asserted, for the systolic murmur of aortic obstruction is sometimes, though rarely, louder at the apex than at the base, and I have met with a few cases in which it was audible at the apex only. I cannot prove that this was due to a thickening of the cusp nearest the ascending part of the mitral valve, but if this were so it might explain the conduction to the apex. Such a murmur becomes faint beyond the apex and though loud there is not to be heard at the angle of the left scapula. Here, again, the character of the pulse must be taken with the auscultatory results.

It may be proper here to object to such phrases as "a mitral murmur was heard at the apex"; "an aortic murmur was heard on the sternum." By thus mixing the premiss [illegible] murmur the value [illegible] heard should be [illegible] that observation. The record of what was heard is an observation of scientific value only to be impugned by evidence of a defect of the sense of hearing in the observer. The clear statement of exactly what was heard, of the time of the murmur in the cardiac cycle, of the place where it was loudest, and of the area of the chest over which it was audible, enables future readers to accept or reject the conclusion drawn by the observer. The mixed statement leaves a conclusion which the future reader has no opportunity of considering, and his acceptance or rejection of it can depend on the authority only of the person making it.

The definite character of the pulse makes the determination of aortic valvular disease, whether obstructive or regurgitant or both, comparatively free from difficulty. The murmurs are the loudest of all valvular murmurs when loud, though they are occasionally barely to be heard. Aortic murmurs may sometimes be heard without touching the chest wall. I have once at St. Bartholomew's Hospital heard a murmur not indeed so loud as that described by Douglas which I mentioned in my last lecture but loud enough to be heard as one stood near the patient without stooping. It was systolic and was due to aortic obstruction. I have since heard murmurs in three cases, all of aortic valvular disease, which were audible without touching the chest.

A woman, aged 50 years, complained of pain in her left shoulder and down her left arm occurring in paroxysms. These had increased for six years in frequency and when they came on she felt stifled and could not move. I myself saw her in one of these paroxysms, and there could be no doubt that it was an attack of angina pectoris. The impulse of her heart was always greatly increased and the apex beat was in the sixth left intercostal space an inch outside the nipple line. A diastolic thrill was to be felt over the sternum at the level of the second intercostal space. A very loud diastolic murmur was audible in the second right intercostal space, down the sternum, at the apex, at the angle of the left scapula, and in the right supra-spinous fossa. The murmur was loudest at the second right intercostal space and was preceded by a very faint systolic murmur. The pulse at the wrist was of the kind often compared to a water hammer. The diastolic murmur was distinctly audible three measured inches from the patient's sternum without stethoscope and without touching the chest or any part of the body. She was admitted to St. Bartholomew's Hospital a month later and the murmur continued to be audible without contact for a week. Then it became less loud and the anginal attacks less frequent, and it was no longer audible without a stethoscope though it always remained audible with one.

A labourer, aged 41 years, who had shortness of breath and palpita-
pectoris. The impulse of his heart was
it was three-quarters of an inch outside
left intercostal space. A double thrill,
be felt all over the cardiac area. At the
a loud systolic and equally loud diastolic
st there but audible down the sternum,
at the apex, at the angle of the left scapula, and at the right supra-spinous fossa. The pulse at the wrist was very sudden. Both these murmurs were audible without touching the chest at a distance of three measured inches from it. After rest in bed for 14 days the murmurs could no longer be heard without touching though plain with a stethoscope.

A man, aged 22 years, had a much increased cardiac impulse. His apex beat was in the sixth left intercostal space just outside the nipple line. A very loud diastolic murmur was to be heard at the base, audible all down the sternum, and this was easily heard without touching at one inch and a quarter from the chest wall.

The murmur of aortic valvular obstruction and that of regurgitation are sometimes very faint or only audible now and then. If the patient be made to raise his arms above his head a faint murmur often immediately becomes distinct and the same effect may sometimes be produced by the inhalation of nitrite of amyl, but the former method is the better. The murmur of aortic obstruction may often be heard at the right supraspinous fossa, and this is a useful physical sign, for if a systolic murmur be heard in the right supraspinous fossa and nowhere else on the back it is a very certain sign of aortic obstruction, a fact which has not been generally observed and is not mentioned in books on auscultation, not even in the book which we have all read with enjoyment, in which Dr. S. J. Gee has in such measured and well-chosen language set forth one of the best arranged statements of knowledge on auscultation and percussion in English. The diastolic murmur of aortic regurgitation may also sometimes, but much less often, be heard in the right supraspinous fossa.

In a complicated case of valvular disease, when it is wished to arrive at an exact conclusion as to the valves affected, it is often a good plan to listen first at the back and hear what can be heard there without prejudicing the mind by listening first to the louder sounds in front.

The murmur of mitral regurgitation is often very loud at the angle of the left scapula; the murmur of aortic obstruction is sometimes very distinct in the right supraspinous fossa. The murmur of mitral regurgitation, it is true, is often very loud over the whole back, sometimes even including both supraspinous fossæ, but this is not always so, and in a fair proportion of cases it will be possible to distinguish the areas of the two murmurs. The murmur of aortic obstruction will rapidly become fainter as the stethoscope is moved obliquely downwards towards the dorsal vertebræ, and the murmur of mitral regurgitation will be made out to be louder near the angle of the left scapula than near the dorsal vertebræ or beyond them to the right. It may be audible up to the right supraspinous fossa, but when that is reached an immediate increase in the volume of sound is perceptible, for two murmurs each produced in the systole are heard together. A good many systolic murmurs of aortic obstruction are not audible in the right supraspinous fossa while nearly all murmurs of mitral regurgitation are audible at the angle of the scapula. In cases where both murmurs are audible behind I have proved this method of distinction by repeated observations and recommend it to the College.

A character of murmurs produced by aortic disease, when heard in the front of the chest, is their apparent nearness to the end of the stethoscope. This is often of great assistance in distinguishing each murmur when those of mitral regurgitation and of aortic obstruction are both present.

A single observation will never enable one to dogmatise about a complication of murmurs and however erroneous the opinion of some other man may appear to a listener to a heart it is wise not to say this or that cannot be heard till repeated examination has been made. Murmurs, indistinct or inaudible, often become plain as the action of the heart alters.

It is often very difficult to explain the alterations of murmurs. An adherent pericardium, not, I think, by its thickness but owing to its interference with the muscular rhythm of the heart, may produce confusion as to the valves affected. I hope this discussion of a few parts of the subjec of valvular murmurs is not too trite for the College. Ther seems to me to be so much that is difficult in the subject o valvular disease that I have ventured to discuss not th whole of it but a series of parts in which I chance to hav had good opportunities of observation.

The first attempt in England to explain the pathology o rheumatism was that of Dr. Clopton Havers of St. Catharine' College, Cambridge, in his "Osteologia Nova," published i 1691. Few have read the book, yet its account of th structure of bone has secured for its author the mention o his name with the Haversian canals by every student o medicine since his time. He advanced the view tha rheumatism was due to a sort of jelly "concreted upon th superficies of the muscles." He mentions in support of th hypothesis that rheumatism was due to this mucilage o jelly a case of a curious tumour of the leg, perhaps hydatid, since it contained "many smaller pieces of whit curd mixed with a serum," which he thought showed tha mucilaginous glands existed in the muscles and becam diseased, and that they were the source of the outpourin which constituted rheumatism. Since the time of Haver many pathological hypotheses have arisen on the causation o rheumatism. None of those relating to rheumatic fever nee be recapitulated. Its resemblance to diseases produced b definite organisms is too close for any other hypothesis o origin to be at present probable. It might obviously b included among what Sydenham would have called th epidemic diseases of the year. The pain which it produce we know how to relieve, but when it is considered that it i the origin of most of the valvular disease of the first half o life and of some proportion of the valvular disease of th second half of life, and through them of all the distresses o slow death by dropsy and instant death by affection of th muscular tissue of the heart, as well as of all the diminutio of working power which is a necessary result of valvula disease long before it has begun to threaten life, w anxiously look to the bacteriologists for a conclusive demon stration of the nature of the organism which produces it an of its natural history as an important aid to the preventio of rheumatic fever and the diminution of its incidence o the population and of its long train of disastrous cons quences.

The Irish Association.—The annual banque of the Irish Association in London, Dr. H. Macnaughto Jones, the President, being in the chair, will take place a King's Hall Rooms, Holborn Restaurant, W.C., on Thursday May 27th, at 7.30 p.m. Field-Marshal Earl Roberts an Admiral Lord Charles Beresford will be the principal guest of the evening.

A Clinical Lecture

ON

THE REMOVAL OF TUMOURS OF THE LARGE INTESTINE.

Delivered at University College Hospital, London, on Jan. 27th, 1909,

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GENTLEMEN,—It may fairly be said now that every part of the large intestine from the cæcum to the anus is accessible to surgical operations for the removal of tumours of various kinds with or without obstruction. Comparatively recently we have had before us several cases illustrating this branch of surgery and these will form the basis of our clinical lecture to-day.

The tumours with which we have to contend in the large intestine are almost invariably columnar epitheliomata of varying degrees of malignancy. But, as a rule, they are slow growing and have but a moderate tendency to invade the lymphatic glands or generalise in other parts of the system. They may be regarded, then, as offering generally a good prospect of thorough removal under favourable conditions. In addition to these tumours, we also meet with tubercular infiltration of the walls of the bowel forming masses which obstruct its lumen, with actinomycosis and with intussusceptions. Excluding the latter, of which I have already spoken in another clinical lecture, and the actinomycotic masses which are rare and have not come into my own experience in the large bowel, we will consider some of the cases of malignant and tubercular tumours which have come under our notice lately.

The whole question whether we can safely remove such masses is influenced more by the presence or absence of associated obstruction than by anything else. If there is but little or no obstruction to the passage of fæces through the affected part the removal of a segment of the bowel is to a large extent merely a question of skill and accuracy of technique. But if obstruction is present great judgment is necessary as to whether we shall first relieve the overloaded gut by making an artificial anus for a few weeks' preliminary drainage, or at once proceed to remove the tumour and unite the divided ends. As a general rule, the first course is the best. There are several reasons for this. In the first place, the technical difficulty of dealing with a bowel greatly distended with fæces above a constriction are very great. Not only is it very hard to remove the tumour without soiling the peritoneum and abdominal wound, but it is in some cases almost impossible to adapt and suture the distended proximal end to the more or less contracted distal end when the tumour has been excised. This can in some cases be avoided by lateral anastomosis with closure of the ends, but unless the mesocolon is long or has been mobilised by division of its mesentery it may be very hard to bring the parts side to side. But even though this may be accomplished and the side-to-side junction of the colon be made, there is another risk from immediate anastomosis of a loaded gut without a preliminary drainage which must never be forgotten. [illegible] ler the strain [illegible] condly, some days after the junction has been effected by the cutting out of the stitches in the proximal part. You may ask why this cutting out may occur so late as perhaps the fifth day when union of the divided viscera should be as sound as it is at such a time after a gastro-enterostomy, for instance; but it is easily understood by those who have seen many of these cases. The part of a bowel proximal to any bad obstruction becomes in course of time paralysed and sodden with the toxins of fermenting fæces. Its tissues under these conditions will not hold firmly and there is an absence of that healthy plastic peritonitis around them upon which the ultimate soldering up of the two ends of the bowel depends The result is a giving way of the stitches at one or more points always in the proximal end and either a perforation leading to death or a fæcal fistula on the surface of the abdomen. The difficulty of determining by the eye or by touch whether bowel above an obstruction is sound enough for suture is so great that it is a better and safer rule to make a provisional drain opening in it and allow the gut to recover in the course of a couple of weeks or so before attempting a junction. This may or may not be combined with the removal of the tumour according to circumstances. This does not apply to obstruction of the small bowel where enough can be drawn out to reach a part above where the coats are sound. Here we have only to draw the coil downwards for several feet, clamp it, and remove the sodden loaded part with its contents and make our junction between healthy tissue below the point of obstruction and healthy tissue high up, as I did in these cases from which these pieces of black semi-gangrenous gut several feet long were successfully removed (specimens shown). Such an extensive removal of a loaded colon cannot, of course, be done. Moreover, it is a well-known fact that where there is a stubborn obstruction low down in the colon which has persisted for a long time a state of ulceration frequently exists in or about the cæcum, and this would prevent any sound junction, even if it were possible to unite the cæcum with the lower part of the large intestine after removal of the intervening portion. It is better, then, I repeat, to drain an obstructed colon for a long enough time for it to recover its muscular tone and expel all fermenting fæces and their toxins before attempting any junction after excision. This will usually take from two to three weeks. But in those cases of tumour of the large intestine where obstruction does *not* exist to any large extent, or where the fæces are solid, the bowel is sound enough for all the purposes of repair and successful excision of parts of it depends on manipulative skill and accurate technique. A careful study of the history and course of every case and a close examination of the abdomen should precede any operative undertaking especially to determine whether the bowel is likely from the history to be loaded with liquid fæces or can be shown by palpation to be so. The practice of administering drastic purgatives in cases of obstruction low down is responsible for many of the unfavourable conditions due to loading of the bowel with liquid fæces which we meet with in these cases. Enemata, on the other hand, are always desirable and should be repeated over and over again if time permits But not just before the operation. It is better to have the distal part of the gut in a state of rest at the time of operation, empty or not.

Perhaps the best way of bringing under your notice the technique of removal of the cæcum for tumour without obstruction is to describe what was done for a patient who has recently left the hospital well from whom the specimen before you was removed.

The patient, aged 40 years, was admitted to University College Hospital for a tumour in the right iliac fossa of about the size of the two fists and a fæcal fistula leading into it. She had been operated on in the provinces two years before for fæcal abscess supposed then to be due to a tubercular appendix. Since then the operation wound over the cæcum had never quite closed and fæces continued to be discharged from a fistula leading deep into the swelling. She was on admission much emaciated and anæmic but apart from what has been mentioned there was nothing to be found in the abdomen. The diagnosis we made was tubercle of the cæcum. As there was no prospect of closing the fistula by any other means it was determined to excise the tuberculous cæcum This involved a very extensive operation under unfavourable conditions as to asepsis in view of the fæcal fistula but favourable inasmuch as there was no obstruction. After every possible process of cleansing had been carried out for several days two elliptical incisions meeting at both ends were made, including the old scar with the fistula in its middle. These incisions were deepened until a clamp could be applied to close the fistula so as to prevent any escape of fæces during the rest of the operation. When by carrying these incisions deeper the abdomen was opened it was found that the whole cæcum and part of the ascending colon were converted into a large solid mass of tubercular scar tissue imbedded in adhesions in the omentum and parietal peritoneum. It was also seen that the last part of the ileum for about two feet and the whole of the ascending colon were studded closely with large countless tubercles which also appeared in smaller amount on other coils which were seen in the wound [specimen shown] It was plain then that the whole cæcum, ascending colon, and a couple of feet of ileum would have to be excised to give any good prospect of a riddance of the disease. This was accomplished by double clamping of the ileum in *relatively* sound tissue where only a few tubercles could be seen and dividing it between the clamps. The proximal end of the ileum was then implanted into the transverse colon. The last two feet of the small gut, the cæcum, and the ascending colon were then separated from their attachments, their vessels being carefully tied off, and the colon was double clamped on the proximal side of the ileo-colic anastomosis, divided between the clamps, and its distal end sutured by two rows of stitches, the last being sero-muscular, the first through all coats. All this was done with the greatest care as to asepsis, the large pelvic dissection being packed with gauze as it was proceeded with. When the gauze was removed at the end the cavity was dry. But as we had been working on a part with a fæcal fistula in it and seeing that it might have been infected during the operation, I felt that the extensive wound ought to be drained. This was done with a large apron of gauze stuffed with a long strip of iodoform gauze. The ends of the wound were sewn together. The operation, which lasted nearly two hours, was done under spinal analgesia, which gave ideal conditions for both the operator and the patient, who had begged for it in preference to general anæsthesia, of which she had most unpleasant experiences. Just at the end the patient began to feel a little but made light of it. There was no shock and the large cavity contracted slowly until only a track was left. This seemed to be kept from healing either by a deep ligature or a tubercular nodule. When the patient left hospital for the country she was putting on weight and had only a very trifling sinus yielding a drachm or two of thin discharge daily.

The specimen now before you shows the most extensive tubercular disease of the parts involved, and where the cæcum is laid open it is seen to be shrunken and stenosed, so that the passage through it would only have admitted a No. 12 catheter into the colon. Six damson stones were found in it, one of which blocked the contracted part. The bowels after the operation were soon regular and the motions normal until the patient went home.

This excision is typical of what can be done on the large intestine on the right side of the abdomen, whether for non-malignant or malignant disease. In either case I have come to regard it as perhaps the least difficult part of the colon to attack and most likely to give good immediate and remote results. My first excision for cancer of the cæcum done in 1899 was on the same lines and did well. For six years the patient was in the best of health but then presented himself with secondary deposits and died not long after. But six years of the best of health was gained. In this case the ileo-colostomy had to be done for acute obstruction, the excision following some five weeks later, and this obstruction was the chief risk in the case as already explained owing to the possibly unsound condition of the bowel above the tumour due to the putrid fæces retained there. As the event showed, it was sound enough to hold the sutures. But as a general rule it is better to assume that it is not safe to make an immediate junction, and therefore an artificial anus is made higher up in less damaged bowel unless a large stretch of the intestine can be at once excised with its contained putrid contents. The operation of removal of the cæcum is, of course, a severe one, and in the aged or very asthenic younger adults it will often be better to content oneself in the first place with simply anastomosing the ileum to the transverse colon. Later, if the general condition be much improved, the excision may be undertaken if the patient be in favour of it after the condition of things be fully explained. Some patients will face any risk in preference to having the prospect of inevitable slow death from cancer. It is here that much judgment and experience are needed; no hard-and-fast rule can be laid down. The immediate results, it has been said, of excision of the cæcum are good, and I believe it is correct to say that all the cases which I have contributed to the hospital records have recovered.

In the case of tumour of the transverse colon or splenic flexure a great deal depends upon whether there is much obstruction or not. If this is obviously present, as is often found, or in cases in which we are in doubt upon the it is a good rule to make an incision below the umbilic the middle line. It will then be seen whether small intestine is much loaded and distended. this is the case a coil from the lowest pa the ileum which can be reached should be drawn out o incision and held over a basin, the wound being packed gauze. The bowel is then opened with a knife or sc transversely and as much as possible of its content allowed to drain away. The more that escapes the b and it will now be possible in doubtful cases to pa hand into the abdomen and ascertain the exact seat and connexions of the tumour. Nothing in the sha excision should now be done, but as soon as the bow been well emptied the opening in it should be fixed wound as securely as possible and the latter clos round it with or without a tube in the orifice. If of the contents have flowed away with great relief sometimes better to close the opening by temporary st securing the sutured spot in the abdominal wound. after a couple of days, during which adhesions have f round the sutured knuckle, the stitches in the can be cut and further drainage of the intestine b provided for with less risk of infection of the men than if the fæcal fistula had been form once. Subsequently, when the abdomen has unl itself and the effects of toxic absorption have pass usually in four or five weeks, the tumour of the tran colon or splenic flexure may be excised in the first c a median incision above the umbilicus and in the sec an oblique incision from about the end of the tenth rib wards and forwards. In one of the most interesting, b worst, cases of obstruction I have ever had this was d Jan. 27th, 1904, with the best results, and the man i before you quite well, exactly five years later, t Jan. 27th, 1909.

The patient, a man over 57 years, was enormously dis and very ill and we could only infer from the sympton the tumour was in the splenic flexure. An opening wa in the small intestine two feet from the ileo-cæcal valve evacuated an enormous quantity of liquid fæces an This enabled the hand to be passed in and the colic noma was found at the splenic flexure. Some week the ileum proximal to the fistula was laterally anasto to the sigmoid flexure below the growth through an o incision in the loin. A few weeks after this the g was excised by opening up the last incision an colon above and below it was closed. Later the above the fistula and below the anastomosis was to direct all the fæces into the sigmoid and the part was left in the wound as a safety valve f colon which you remember was closed above whe growth was taken away. I heard of the patient in health a few weeks ago and have asked him to come examination to-day. You see him now strong and having put on several stones weight in the five years elapsed since the operation. To have attempted imm excision and end-to-end junction in this case in un bowel distended by putrid fæces would have been to disaster, and the same might be said of a short circui at once between the ileum and colon. It was thus nec to operate four times on him before the intestinal was rearranged. But it is otherwise in those cases of t of the transverse colon or splenic flexure in which ther distension and but little obstruction or only interm blocking. Here the resection and end-to-end or lateral tion can be done with a good hope of success. The firs in which I did this on the transverse colon some yea was in a woman, aged about 50 years, who had, it n mentioned, 6 per cent. of sugar in her urine. The grow removed from the transverse colon and she made a recovery. She came into one of the medical wards of th pital for hemiplegia, apparently of cerebral origin, s years later, some hemiplegia remaining, I believe, whe left. Here there was no previous drainage of the inte there being no distension, and the fæces abov seat of operation were solid formed scybala an intestinal walls were sound. But the thin walls colon were very difficult to suture accurately end to en I was not surprised to have to deal with a small fistula in the wound for a week or two, which, ho closed of itself without special treatment. It may be

Why not make a fæcal fistula above the growth *in the colon itself* in cases where it is very much loaded with liquid fæces instead of in the ileum as in the case recorded above and so empty all the colon direct? This may be done, but it is far more difficult to draw the distended colon out of the wound and make a safe union between its thin coats and the abdominal wall than it is to secure the thick-walled small intestine. Moreover, at the subsequent excision of the growth the presence of a fistula in the colon not far from the field of operation not only makes it more difficult to keep the procedure aseptic, but the attachment of the colon at the seat of the fistula makes the manipulation of the bowel far from easy. Again, it appears probable in these cases of obstruction of the colon in its transverse and splenic portions that liquid fæces can be emptied by anti-peristalsis through the ileo-cæcal valve and a fistula in the lowest part of the ileum.

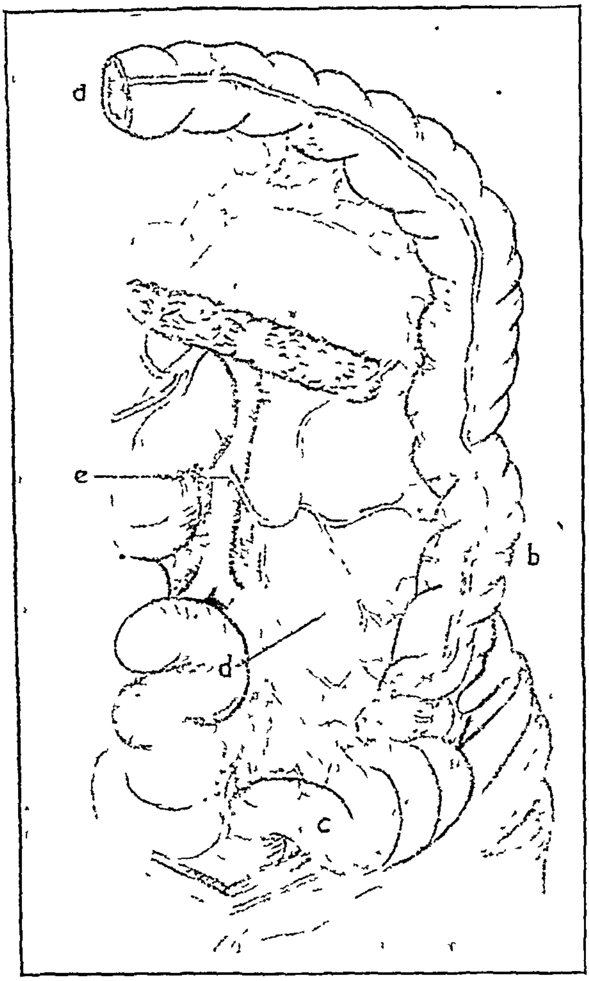
But in cases of sigmoid flexure tumour with distension with liquid fæces an artificial anus may be made in the transverse *colon or cæcum with advantage, and when the gut has* been unloaded for a few weeks the growth may be removed through a fresh oblique incision in the left inguinal region or just above it, and an end-to-end junction made. At a subsequent operation the artificial anus can be closed. But in some cases a better means may be adopted. This consists in operating at once over the sigmoid, separating the mesentery of the part in which the growth is seated, and drawing it out of the abdomen. Then when the wound has been securely stitched round both the proximal and distal portions the growth can be cut away and the upper part of the colon be drained with a Paul's tube for two or three weeks until the bowel above is healthy and sound. Then a second operation is done to unite the proximal and distal ends by opening up the old wound, including it between two curved incisions to secure fresh aseptic surfaces. This is a difficult operation from the point of view of asepsis, but it can be done successfully with due care. This was the course which I followed with perfect success just a year ago in the case of a patient in one of the southern counties who was suffering from carcinoma of the sigmoid with enormous distension of the colon. I heard from this patient himself, now perfectly well, a few weeks ago on the anniversary of the operation. This will be, as a rule, the best course in an average case of tumour of the sigmoid with much distension of the colon above, but in some cases where we feel sure from the history, from the recent passage of fæces and flatus, and from the appearance of the colon when exposed that the bowel above is not over-distended and is sound, we may at once proceed to resect the growth and unite the ends. This, of course, avoids the artificial anus with all its discomfort and the risk of sepsis immediately and at a subsequent operation, but there is always the possibility of being deceived as to the soundness of the bowel and we may have one or two stitches giving way and a fæcal fistula resulting. This, as a rule, will close soon, but there is, of course, a risk until it does so. I have treated several such cases in this way with good results, but in some a fæcal fistula has for a time given rise to anxiety. This is notably the case in a private case operated on some weeks ago still under my care. I thought that the history and the appearance of the bowel above the sigmoid growth pointed to sound and only slightly distended bowel and removed the growth through the left inguinal incision, making an end-to-end junction. But from the moment the gut was replaced in the abdomen and for days after there was a copious flow from the anus of liquid and very foul fæces. About the fifth day there was a little escape of gas when the drain-gauze was removed, and this was followed a day later by a little fæces and then more each day from the wound. But now the bowels are acting freely by the anus and the fistula is yielding very little. This case was complicated by a cystic ovarian tumour of the size of a large cocoanut, which nearly filled the pelvis, and by very bad piles, both of which made the emptying of the bowel below the juncture very difficult, and this may have thrown an extra strain on the sutures at the junction to which they yielded. But as the piles are better now and the rectum is emptying itself freely, the sinus in the original wound will probably soon close. The lady is otherwise quite well.

And now we turn to those tumours of the large bowel which are seated below the promontory of the sacrum too low for excision and union of the severed ends from an abdominal wound and too high to be reached with ease from below. These cases have always been a crux to surgeons in spite of the introduction of Kraske's operation from behind. Now, of course, where they are seated low enough to be reached by the dorsal or perineal methods and are not too widespread, they are dealt with by these methods. And it is surprising how much of the bowel may be excised from below. But there are many cases in which the growth lies in that part of the colon just below the promontory of the sacrum, where the mesentery is short, which are most difficult to reach from below, and the condition of whose mesenteric attachment as to infected glands cannot be ascertained from here. Moreover, if this portion be mobilised from below and pulled down the strain on its vessels is often so great as to arrest the current in them and the part is deprived of its blood-supply and dies. To meet the requirements of such cases a very bold but well-thought-out method has been proposed and practised within the last few years which, if severe and prolonged, has yet much to recommend it. *This is to attack the* tumour both from above through the abdomen and below from behind below the sacrum. But for this procedure to be carried out with success several conditions have to be present. The patients must be in fair general condition and not in an exhausted state, as unfortunately is so often the case before the condition is recognised and they are placed in the surgeon's hands, and they must be free of secondary deposits. Again, they must not be too stout, as it has been found that in obese patients the difficulties of technique are very great. Further, the bowel above the tumour must not be distended and loaded with fluid fæces. If it be so in any case relief must be first procured either by frequent enemata or by the formation of an artificial anus, preferably in the transverse colon, so as to place it as far away from the future opening in the abdominal wall for the excision as possible. Finally, such a procedure can only be successful in the hands of a surgeon who is fully aware of the anatomical facts on which the provision for the vascular supply of the long tract of bowel to be mobilised depends. For it is clear that if the lower end of the sigmoid flexure—i.e., the part above the growth—is to be brought down near or to the anus it will be necessary to separate the meso-sigmoid, as it is sometimes called, and also at least the lower part of the descending meso-colon. And if this be so, the vessels supplying these parts of the bowel must be carefully preserved, otherwise they will subsequently become gangrenous.

Let us glance at the arrangement of the vascular supply of the implicated bowel and see if it may be mobilised without the risk of cutting off the blood supply. You will remember that the rectum are supplied mesenteric artery. (Fig. 1e.) The left colic branch from this artery anastomoses above with the middle colic and below with branches of the arteria sigmoidea from the inferior mesenteric. The sigmoid artery, on the other hand, anastomoses below with the branches of the superior hæmorrhoidal artery, which may be described as the lowest terminal branch of the inferior mes-

meet the system of the inferior hæmorrhoidal plexus derived from the pudic artery. Now it is quite plain that if the bowel from the promontory of the sacrum to near the anus is going to be removed, the sigmoid flexure must take its place and its vascular supply must be uninjured when it is drawn down to the anus, and this without undue strain being put upon it. But it is equally obvious that the sigmoid and superior hæmorrhoidal arteries must be cut and tied if the sigmoid is to be mobilised. How, then, is the circulation in the sigmoid to be carried on if the sigmoid artery is tied off when its mesentery is *separated from the pelvic wall?* This is easy to understand if you will look at the arrangement of the vessels of the left colon. I show you this as given in Quain's "Anatomy." You will see that each of the arteries named just now as it approaches the bowel breaks up into numerous large branches forming a wide-meshed network all along the mesenteric attachment of the bowel from the splenic flexure to the rectum. This network is at least one and a half inches deep measured from the bowel. If, therefore, the sigmoid and superior hæmorrhoidal arteries be carefully tied about two inches from the bowel the large vessels derived from them receive their blood from the anastomoses with the left colic artery and supply the lower parts of the gut as before. But it is a *sine quâ non* that the ligatures on these vessels shall not be placed on them nearer than one and a half inches, and that the network between them and the bowel be preserved from all injury and be not overstretched. You will best realise how such an operation is carried out if I describe to you a case lately in my wards which some of you have seen quite convalescent.

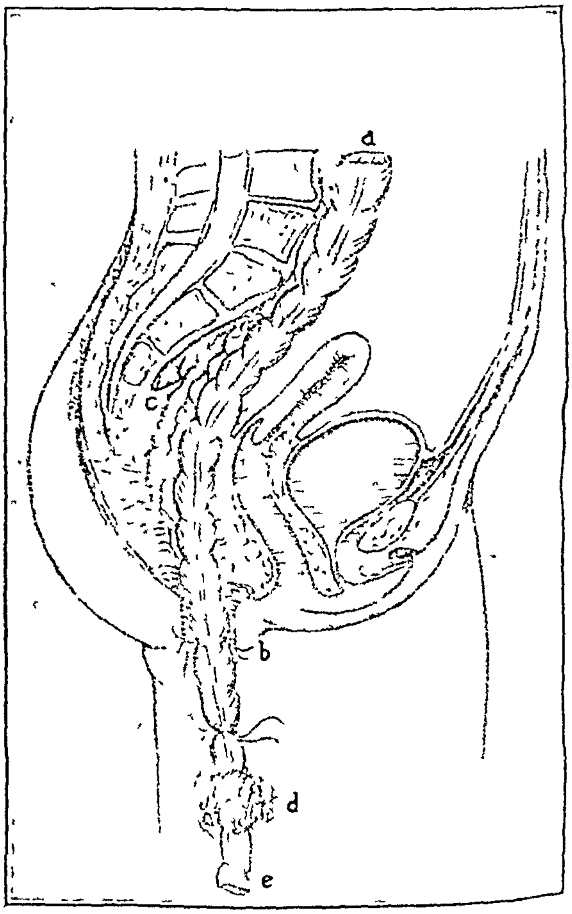
FIG 1.



a, Transverse colon. b, Descending colon. c, Sigmoid flexure. d, Line of division of sigmoid and superior hæmorrhoidal arteries e, Inferior mesenteric artery. (After "Quain's Anatomy.")

The patient was a slightly-built thin woman, aged 40 years, with symptoms of intermittent obstruction with the passage of blood and mucus. There was no distension and no tumour could at first be made out either by rectal or abdominal examination. But by the use of the proctoscope we eventually saw clearly a carcinomatous ulcer high up. No glands or secondary deposits could be made out and the uterus and vagina appeared normal. You will see from this that the case fulfilled several of the conditions mentioned above, and was so far favourable for operation. Having cleared out the bowel by laxatives and enemata and cleansed the abdominal wall and sacral region rigorously, the operation was begun with the patient lying on her back. An oblique incision was carried from about one inch above and internal to the spine of the ilium to nearly the middle line an inch above the symphysis pubis. Through this skin incision the fibres of the three muscles were separated to nearly the same extent. Where they ran into the sheath of the rectus the latter was opened enough to permit of this muscle being drawn inwards with hooks. The peritoneum was now slit up in the line of the main wound and the sigmoid presented. It was then seen that it ran into a mass of carcinoma occupying the pelvic colon at the level of the promontory too low down for removal and anastomosis of the divided ends from our abdominal opening. At the same time it seemed otherwise a favourable case for excision, for there were no glands or secondary deposits or adhesions to be made out. It was therefore determined to remove it by the combined abdomino dorsal method. To this end the sigmoid was first drawn out and the abdomen about its root was well packed with a long roller of gauze. Then the meso sigmoid was detached from the pelvic wall at least one and a half inches from the border, having first been transfixed with double threads between which its vessels were divided. This separation of the mesentery was carried upwards until the lower part of the descending colon was likewise free and downwards until the upper part of the rectum was mobilised from the hollow of the sacrum. The gauze was then drawn out, the wound revised, and the abdominal opening provisionally closed by a few stitches and carefully dressed *pro tem*. The patient was then turned over to her left side and an incision curving from the left side of the sacrum to the middle line and down to about two inches from the anus was made down to the bone. The coccyx was removed through this opening with as little disturbance of surrounding structures as possible

FIG. 2



a, Last part of descending colon. b, Last part of sigmoid sutured to everted anal portion of rectum c, Peritoneum sutured to sigmoid after the latter is drawn down d, Growth drawn out through anal portion. e, Rectum below the growth

The rectum was now pulled downwards until the openings in the peritoneum on either side of it made from above could be seen. These openings were then continued downwards on either side of it as far as the peritoneum extended. The whole of the large bowel from the last part of the descending colon to above the anal portion of the rectum was by this time mobilised and the sigmoid loop was converted into a straight tube of which the part well above the growth would easily reach the anus. The anus was now stretched by an assistant who took no further part in the operation. Then a bulbed rod was passed through the anus and up to the growth and from the dorsal wound a stout cord was tied round the whole bowel below the bulb. The rod being now withdrawn brought the growth (with some help from the hand above) within and through the anal portion like an intussusception and turned the anal portion inside out. (Fig. 2.) The anal portion was now divided all round about two and a half inches from the skin margin exposing the lower part of the pelvic colon about four and a half inches above the growth. The cut edges of the anal portion were now united to this by stitches passing through all its coats and the sero-muscular coats of the colon within. Then a stout thread was tied round the whole protruding colon about two inches below the line of suture and the bowel was cut across below this and well above the growth. All this was done without opening the bowel until the edge of the everted anal portion was stitched to the inner tube, and this was done cleanly so that any possible soiling of the abdominal or sacral wounds was avoided. The thread round the gut below the line of suture prevented the escape of fæces or mucus for a couple of days during which union would be pretty firm. After this we revised the abdominal wound and pelvis and found both satisfactory and stitched up our abdominal incision in layers. Then the dorsal wound was in part closed and drained with gauze. The part of the colon below the line of suture was left to slough off, which it did in a week, and the bowels began to act at this time. The abdominal wound healed without a flaw under the first dressing and the dorsal contracted up and closed without incident. The patient showed no trace of abdominal trouble from beginning to end, and left the hospital with full control over her motions. The patient presented herself for examination in the middle of April in excellent condition and with perfect control over fæces and flatus. This was due to the fact that beyond being turned inside out *pro tem.* no injury had been done to the anal portion of the rectum which contains the sphincter apparatus.

This intussuscepting method when it can be accomplished with moderate-sized tumours renders it possible to do all the stitching part of the operation outside the anus, whether it unites the colon to the everted anal portion or actually to the margin of the anus after removal of the mucous membrane.

This so-called "combined" procedure is beyond doubt a severe one and not suited for decrepit or obese people. In this case there was little shock and all the objects we had in view were carried out.

Now we come to the case of growths of the rectum within reach of the finger in the anus. These can undoubtedly be mobilised by the dorsal wound alone, and in many cases at all events the upper part of the bowel can be brought down far enough for junction with the intact anal portion, if not with the anus itself. But the dorsal method alone has its weak points. The chief of these is that possible infection of glands high up cannot be ascertained, nor can the condition of the peritoneum. And even if it is recognised that these structures are more or less the seat of secondary deposits these cannot be removed so cleanly as they should be. Again, the arrest of bleeding from the dorsal wound is in some cases as difficult as it is indispensable; and further, when after mobilisation of the gut from below the parts are drawn down, there is always the possibility of too much strain being put upon the vessels of the intestine and of sloughing being caused thereby. For the loops of vessels formed by the superior hæmorrhoidal artery are by no
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no alternative but to make a sacral anus with all its disagreeable results as to incontinence of fæces. These defects in the dorsal method have certainly justified a search for some procedure which shall eliminate them even at greater risk to the patient. So serious a condition as cancer of the rectum justifies the running of great risks if we have a prospect of ridding the patient of an otherwise inevitably fatal disease. And in theory, at all events, the combined abdomino-dorsal method does offer such a prospect, and not only that but of doing so without forfeiting the sphincter action of the anal portion of the rectum. Nevertheless, there are still strong opponents of the combined method, and that among surgeons who have a very large experience running into hundreds of operations in this class of cases. And for a long time to come it seems likely that the sacral procedure will hold the field for ordinary cases. But still, it is a significant fact that Kraske, who originated the dorsal method and who has done more to popularise it than any living surgeon, has lately come forward with a plea for the abdomino-dorsal method as a measure which gets over many of the defects of his own original operation. Of this latter I should like to speak more in detail and to give you some of my own experiences, but time fails. I should like, however, to add one word as to the present risks of the two methods. The mortality of Kraske's operation in the hands of some skilled surgeons who have performed it hundreds of times has fallen from 32 per cent. to below 10 per cent. The abdomino-dorsal method has not been practised long, and we have very few statistics to guide us so far. But in Kraske's own series of ten cases reported in April, 1906, he had 40 per cent. of deaths. It may be taken as almost certain that a long time will elapse before this mortality is brought down to 10 per cent. However, if the results, immediate and remote, and as regards control of fæces, are better by the newer method the risks of a higher mortality will be faced by many sufferers cheerfully.

A Clinical Lecture

ON

WHEN TO OPERATE FOR ENLARGED PROSTATE:

WITH A REVIEW OF 600 CASES OF TOTAL ENUCLEATION OF THAT ORGAN.

Delivered at the Medical Graduates' College and Polyclinic on March 17th, 1909,

By P. J. FREYER, M.D., M.CH. R.U.I.,
SURGEON TO ST. PETER'S HOSPITAL; CONSULTING SURGEON TO QUEEN ALEXANDRA'S MILITARY HOSPITAL.

GENTLEMEN,—Nearly eight years have now elapsed since I first brought my operation of total enucleation of the prostate for radical cure of enlargement of that organ to the notice of the profession in a lecture delivered in this college on June 26th, 1901, and published in the *British Medical Journal* of July 20th of the same year. I then gave full details of four instances in which I had performed this operation, in all successfully.

I have now completed 600 cases of this operation, the statistics of which I will presently place before you. But before doing so I propose once more giving you an account of the anatomical and pathological considerations on which the operation is based, and describing the various steps of the operation. Further, I shall endeavour to answer a question that is frequently put to me—one of great importance to you, as general medical practitioners—namely, At what period in the history of this disease is it advisable to have recourse to surgical operative interference?

Let me, in the first instance, however, introduce to you the first two patients on whom I performed this operation of total enucleation of the enlarged prostate. They have been good enough to come here to-day at my request in order that
questioning them and
results of this opera-
ly 79 and 75 years;
eight years and four months having elapsed in the first case and eight years in the second since the operation was performed. They will recount to you the severe sufferings they went through for some years before operation, having been entirely dependent on the catheter, and their complete freedom from urinary symptoms and excellent health enjoyed by them since recovery therefrom. No catheter or instrument of any kind has been employed since then, and they will tell you that they can retain and pass urine which is perfectly normal not only as well as, but even better than, at any previous period in their histories, for the stream flows in larger volume and with greater force than before They will further tell you that they regained sexual power after

having lost it temporarily in consequence of the pain and debility attendant on the malady. The term "success" after surgical operations is capable of very elastic interpretation. In these cases you will observe that success signifies an absolute and complete cure.

Another of the four cases detailed in my first lecture wrote on Jan. 5th, 1908: "From the day I left the home up to the present time I have never suffered the slightest pain or inconvenience in any way, and I feel now ten years younger than when I first, so fortunately for me, met you." This gentleman paid me a friendly visit about a week ago, when I found him—nearly eight years after operation—in perfect health, untroubled by any urinary symptom. The fourth case, a hospital one, I lost touch with some months after the operation, and have since been unable to trace him owing to change of his address. During those months he suffered from no urinary symptom.

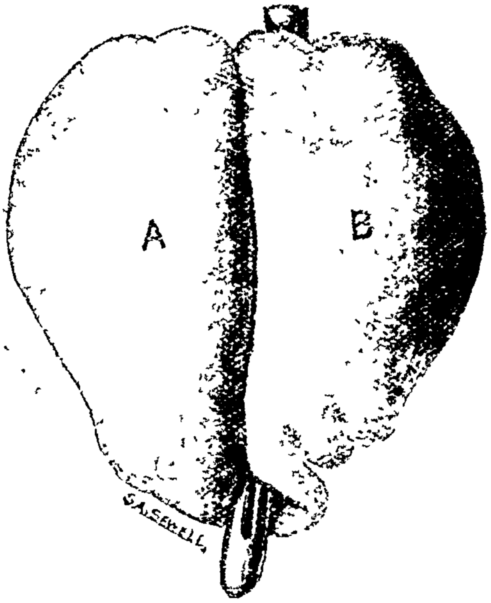
[Mr. Freyer then described the anatomical and pathological considerations on which the operation is based, as well as the various steps of the operation. For these the reader is referred to THE LANCET of July 23rd, 1904.[1] They are given more fully still in the third edition of Mr. Freyer's work "Enlargement of the Prostate."[2]]

Passing on now to the question as to what period in the history of prostatic enlargement it is advisable to have recourse to surgical interference in the form of operation, apart from the patient's age and general state of health, the two following considerations have to be taken into account: (1) The specific symptoms dependent on the prostatic enlargement from which at the time the patient is suffering; and (2) the nature, size, and general conformation of the prostatic growth.

I. Patients suffering from prostatic symptoms will be found when they apply for surgical relief to come under one or other of the following types: 1. Patients suffering the usual symptoms of prostatic enlargement in the earlier stages of the malady, in whom on examination not more than an ounce or two of residual urine is found on introducing a catheter. 2. Those who have probably suffered from prostatic symptoms for several years, in whom we detect a quantity of residual urine varying from 3 to 10 ounces, or even more, but who have never employed a catheter for the purpose of emptying the bladder. 3. Patients suffering from over-distension of the bladder, with extreme frequency of micturition, possibly continuous dribbling of urine, particularly at night time when asleep, but who have never been relieved by a catheter. These patients invariably consult the surgeon because, as they say, they "cannot hold their water," little imagining that the bladder is over-distended and that it is the "overflow" which dribbles away. They are intensely astonished when you draw off several pints of urine by the catheter, with a corresponding decrease in the size of the abdomen. 4. Those cases in which the conditions described in paragraph 3 have culminated recently in complete retention of urine, and in whom great difficulty is experienced in introducing a catheter. 5. Patients who from time to time have had retention of urine, which was relieved by the catheter, but who have not employed this instrument as a routine practice to empty the bladder daily. 6. Patients who for weeks, months, or even years have employed the catheter daily, once, twice, or oftener, for emptying the bladder, but who still retain the power of passing a certain quantity of urine naturally. 7. Those entirely dependent on the catheter for emptying the bladder. In the advanced stages of the disease patients of this type rarely escape from recurrent attacks of one or more of the following complications—viz., cystitis, pyelitis, hæmorrhage, vesical calculus, recurrent attacks of fever with rigors, and difficulty in introducing the catheter.

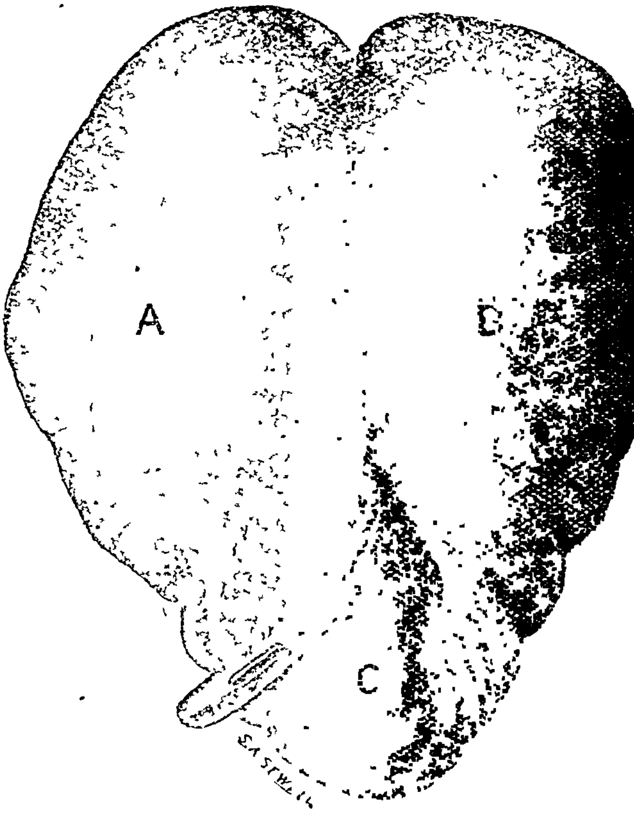
In the first of these types it will, as a rule, be unnecessary and inadvisable to attempt the removal of the prostate; because, in the first place, the symptoms will probably not be sufficiently irksome to warrant such an operation; and, secondly, the enlargement of the organ will not have sufficiently advanced to render it prominent in the bladder, or to define adequately the lines of cleavage between the true capsule and the enveloping sheath. But in one and all of the other types the removal of the prostate should be entertained and advocated if on examination it presents those characteristics—to be presently described—that render its enucleation entire in its capsule practicable, there being no condition of the general health of the patient to negative an operation of this magnitude.

FIG. 1.



Prostate weighing 1¾ ounces, removed from a patient aged 67 years (Case 133) A, Left lobe B, Right lobe. The catheter shows the position of the prostatic urethra

FIG 2



Prostate weighing 6¾ ounces, removed from a patient aged 62 years (Case 112) A, Left lobe B, Right lobe, giving off an out-growth, C, in the bladder. The catheter shows the tortuous course of the urethra

I cannot too strongly urge early removal of the prostate when there is decided enlargement of this organ, giving rise to urgent symptoms necessitating the employment of the catheter, [illegible] is practically no danger attaching to the operation in experienced hands. But when once complications set in, and particularly when the kidneys become diseased, whether through backward pressure of the urine on these organs or from extension upwards of inflammation from the bladder, the operation must necessarily be attended by considerable risk.

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[1] 110 Cases of Total Enucleation of the Prostate for Radical Cure of Enlargement of that Organ.

[2] Baillière, Tindall and Cox, London.

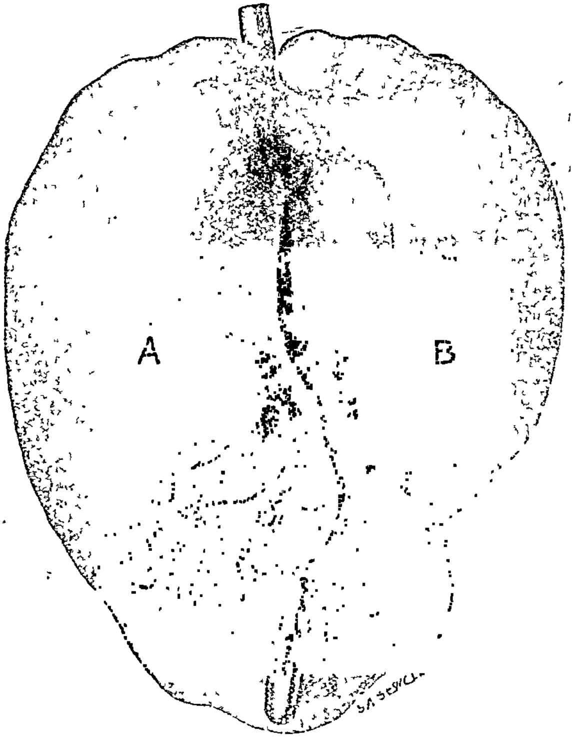
Another grave danger attached to postponement of operation is this, that recent experience has demonstrated beyond doubt that the adenomatously enlarged prostate, which is, of course, a benign growth, has a tendency to assume a cancerous type under the irritating influence of the catheter and complications incidental to catheter life. This is a subject to which considerable attention has been directed recently in France, and so experienced and practical a surgeon as Pauchet of Amiens puts the proportion of adenomatous prostates that thus degenerate at as high a figure as 10 per cent.

II. In order to ascertain whether the prostate is capable of being enucleated entire in its capsule, the patient, if capable of passing any urine naturally, is directed to empty his bladder as far as possible, and is then placed on a couch in the recumbent position. The bladder is then emptied of its residual urine by means of a catheter. The forefinger of one hand, previously lubricated, is slowly introduced into the rectum, and when the sphincter ani is thoroughly relaxed a survey of the rectal aspect of the prostate is made If the organ is found to be decidedly enlarged, presenting a well-marked tumour in the rectum, more or less rounded in shape, bilobed laterally, with a well-marked furrow in the median line, smooth on the surface, soft or somewhat dense to the touch, and (most important of all) moveable, you know that you have to deal with the ordinary adenomatous enlargement of the gland of advanced life. If, in addition, from its prominence in the rectum you estimate the tumour to be at least of the size of a Tangerine orange, the case may be regarded as in all probability one in which the prostate is capable of being enucleated entire.

We next proceed to make a bimanual examination of the [illegible] the fingers of the [illegible] essing them well [illegible] time directing the patient to relax the abdominal muscles. Counter-pressure is made by the finger in the rectum. If the prostate is decidedly enlarged it will be felt between the fingers of the two hands and can be slightly moved upwards, downwards, or from side to side, like a chronically enlarged uterus, but to a less extent. If it be very prominent in the bladder the outgrowth in that viscus will be easily recognised, and in thin subjects the origin of this [illegible] left lobe, or from botl [illegible] ients this method of ex [illegible] nd is most helpful for diagnostic purposes. In very stout subjects it is less satisfactory. Occasionally we meet with patients who are unable to relax their abdominal muscles; in such cases the examination can only be satisfactorily accomplished under the influence of an anæsthetic.

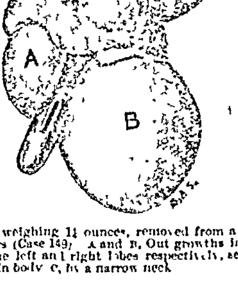
If on bimanual examination the prostate, with the characteristics already described, be felt distinctly, we can at once pronounce the case to be one in which the organ can be enucleated entire in its capsule, no matter what magnitude it may have attained. *Prostates weighing from, say, about*

FIG 3.



Prostate weighing 14¼ ounces, removed from a patient aged 73 years (Case 106) A, Left lobe, showing an ulcer at D, caused by a vesical calculus B, Right lobe, C Saucer shaped lip connecting the lateral lobes and prominent in the bladder.

FIG 4.



Prostate weighing 1¼ ounces, removed from a patient aged 57 years (Case 149) A and B, Out growths in the bladder from the left and right lobes respectively, separated from the main body C, by a narrow neck

2 to 6 ounces (Figs. 1 and 2), such as those I show you, are those most easily and rapidly enucleated. But prostates of larger size can be similarly dealt with, though those attaining to enormous dimensions such as these (Fig. 3) present considerable difficulties, mainly through their being impacted beneath the pubic arch, and to the difficulty experienced in reaching with the finger in the bladder the distal aspects of the growth—those in proximity to the rectum and triangular ligament—to separate the capsule from the enveloping sheath.

Let us now contrast the characteristics of adenomatous enlargement of the prostate, as just described to you, with those of cancer of that organ in a more or less advanced stage. The first feature that will strike you on rectal examination in cases of cancerous enlargement is the intense hardness of the prostate, which is almost invariably of the scirrhous type, though occasionally we find soft boggy patches, due to broken-down tissue. Then the outline of the organ will be irregular, the lobes being ill-defined, and the median groove being partially or wholly obliterated. The organ will be nodular and ridged, with deep, irregular, intervening furrows. Occasionally you will come across a case in which the carcinomatous prostate is smooth and globular, like an ivory ball. Most important of all for diagnostic purposes, the prostate will be immoveably fixed in the pelvis owing to the invasion by the growth of the adjacent tissues. Bimanual examination will confirm the existence of these characteristics, particularly the immobility of the organ, but as a rule in cancer of the prostate no great prominence of the gland will be felt in the bladder, the growth invading the surrounding tissues rather than advancing into the bladder, the trigone of which is, however, very frequently involved. You will have as additional aids to diagnosis enlargement of the glands in the groins in advanced stages of the malady, and at an earlier stage small, hard, sago-like grains may be felt per rectum covering the surface of the growth beneath the rectal mucous membrane. These are secondary deposits in the lymphatics coursing in the sheath of the prostate. Then, in the clinical history of the case you will have the rather sudden onset and rapid advance of the usual prostatic symptoms, the progressive and sometimes rapid loss of flesh, the feeling of lassitude, debility, and undue fatigue, the failure of appetite, the typical cachexia, and the pains in the loins, sacral region, and lower limbs, due to pressure on the nerves by secondary deposits in the lymphatic glands, so characteristic of this disease. It is impossible to enucleate a cancerous prostate in this advanced stage, owing to the extension of the disease to the surrounding tissues In the earlier stages of the malady, however, whilst the prostate is still moveable and the adjacent structures uninvolved, the gland can, and should be, removed. My experience of operation under such circumstances is most favourable. It is frequently impossible, however, to give a definite diagnosis of malignancy before removal of the gland in cases of this kind, though the presence of dense nodules in the prostate, combined with the rapid march of the symptoms, will arouse grave suspicions in the surgeon's mind as to the true character of the disease.

It is, however, when we have to deal with adenomatous enlargements of the prostate of smaller dimensions—say, less than 1½ ounces in weight (Fig. 4)—that the greatest difficulties present themselves as to the possibility of their enucleation entire being practicable. For I may tell you, as the records of my published cases show, that you may find complete dependence on the catheter, strange as it may appear, with a prostate weighing 1½ ounces, 1 ounce, or even less. A prostate of 1 ounce in weight will scarcely feel enlarged per rectum, or even bimanually, unless the patient be very thin. The only way we can determine with certainty the possibility of enucleating a prostate of this size is by the aid of the cystoscope. If on cystoscopic examination we find that there is a well-defined out-growth of one lobe, or marked prominence of both lobes (Fig. 4), in the bladder, the case may be pronounced to be one permitting of enucleation of the gland entire, no matter what its size may be as felt per rectum.

Results from the Operation.

I have now completed 600 cases of the operation of total enucleation of the prostate for enlargement of that organ, the patients varying in age from 48 to 89 years, with an average age of 68½ years. There were 47 octogenarians between the ages of 80 and 89, and 7 patients aged 79 years. The prostates ranged from ½ to 16¾ ounces, with an average weight of about 2½ ounces. The great majority of the patients had been entirely dependent on the catheter for periods varying up to 24 years. Nearly all were in broken health and many apparently dying before operation. Existence was simply intolerable to most of them. Few were free from one or more grave complications, such as cystitis, stone in the bladder, pyelitis, kidney disease, diabetes, heart disease, chronic bronchitis, paralysis, hernia, and in a few instances there was malignant disease of some other organ than the prostate. Such were the unfavourable circumstances under which the operation was undertaken.

In connexion with these 600 operations there were 37 deaths, in periods ranging from six hours to 37 days after the operation, or a mortality of 6·15 per cent. The mortality has been steadily decreasing from 10 per cent. in the first 100 cases to 4 per cent. in the last. The causes of death were: uræmic symptoms due to chronic kidney disease, 16; heart failure, 6; septicæmia, 2; shock, 3; exhaustion (kidneys much diseased), 1; mania (hereditary in 1), 2; malignant disease of liver, 2; heat stroke, 1; pneumonia, 1; acute bronchitis, 1; pulmonary embolism, 1; and cerebral hæmorrhage with paralysis, 1. Though all these deaths are accepted in connexion with the operation, in not more than half the number can the fatal result be attributed thereto, the remaining deaths being due to disease incident to old age and unconnected with the operation. In 108 cases vesical calculi were removed at the same time; but all the deaths in these cases are accepted in connexion with the prostatectomy, none being put down to the suprapubic lithotomy involved.

When I speak of success attending the operation I mean an absolute and complete success as in the two cases brought before you to-day, the patient regaining the power of retaining and passing his urine naturally, without the aid of a catheter as well as he ever did. There is no relapse of the symptoms, no contraction at the seat of operation leading to stricture and no fistula remaining. Further, there is no diminution in the sexual power after the operation.

ON THE

DISCRIMINATION OF UNRECOGNISED DISEASES AND ON A DISEASE OF OVERCROWDING IN SHIPS, ESPECIALLY AT MALTA.[1]

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It is sometimes interesting to take a famous book by one of the old masters of medicine and read in it to see whether it may not still have some lesson for us now. What books of these survive were written by very capable men; that is why they have not been forgotten, and the talent which these elders brought to the study and solution of their problems will often show us a good method for attacking ours of to-day.

The classics in my branch of the profession are Pringle, Lind, and Blane. Sir John Pringle (1707–82), physician-general to the forces, and later president of the Royal Society, in 1752 brought out his great work on *the* "Diseases of the Army." He was the "founder of Military Medicine" (J. F. Payne), the first to prevent dysentery and hospital fever. James Lind (1716–94), for 35 years in charge of Haslar Hospital, proved the usefulness at sea of distilled water and of lime juice to prevent scurvy; 1754, "Treatise on Scurvy"; 1757, "Health of Seamen." Sir Gilbert Blane (1749–1834) went to the West Indies as Lord Rodney's private physician, but, winning the admiral's good opinion by professional skill and personal bravery, was made physician to the fleet. He got lime juice made an issue, which Lind had never achieved, and I believe it was his representations that got a uniform established for our sailors to prevent typhus fever. In 1786 he published "The Health of Seamen."

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[1] A paper read before the Epidemiological Section of the Royal Society of Medicine on March 26th, 1909.

In the natural history of those days the classification of animals and plants was artificial; not enough knowledge had yet been acquired to make a natural system possible. And it was the same with the diseases. An etiological classification, such as we attempt to-day, was unattainable; all the differentiation they had was clinical, by signs or symptoms, or by the regions or organs attacked.

Pringle knew intermittents, diagnosed pneumonia, pleurisy, and consumption; the other diseases which he reports from his field hospital in the spring of 1743 are: rheumatic pains, with more or less fever; inflammatory fever, without rheumatic or pleuritic pain; hard coughs without fever; fluxes; some inflammatory symptoms. "Fevers" were the most numerously occurring of all diseases. Lind reports that 2174 cases were admitted to Haslar Hospital in two years (1758–60)—38 per cent. of all admissions. Blane reports 806 cases in Rodney's fleet in 1782—44 per cent. of all cases added to the sick list. The exanthemata were not included, but even so the class of "fevers" was so large that it had to be broken up somehow, and with the knowledge which they had they could only group their cases by the time and place of their occurrence. Thus Pringle and Francis Home, my great-grandfather, who both served with the army in the Low Countries in 1740 onwards, and both wrote books about their service—books which are in the society's library—grouped the fevers year by year for descriptive purposes (fever of 1741, fever of 1742, &c.), and Blane in the West Indies follows quite the same method.

I submit these facts to this section, whose study is the natural history of disease with a view to its prevention, that it may be realised why prevention in those days lagged so behind. It is difficult to form a consistent theory of the cause of a single disease—how impossible to analyse the causes of a mixed assortment of diseases—and I desire to simply restate what everyone here knows, that a good classification of diseases is a great help towards prevention. As we now know that phthisis, lupus, and tubercular meningitis are not separate diseases but only separate evidences of the same *noxà*—the tubercle bacillus—a case of either reinforces the demand for the prevention also of the other, as the harmonics strengthen the fundamental note in a chord.

Now from that great mass of fevers which the old observers report there have been extracted and identified several groups—malarial remittent, for example. 70 years ago typhus and typhoid fever were discriminated after long search; Bruce lately extricated the Malta fever conveyed by goat's milk, and there are others; but we who go abroad still find cases to which we cannot satisfactorily apply the names we see in the text-books, fevers for which we do not know the cause.

It was a great advance to separate typhoid from typhus fever; difficult clinically, and for two reasons. Unlike other diseases, which, similar at first, seem to differentiate themselves as they progress, these two fevers end in a very similar typhoid condition. This they were particularly apt to do in the olden days, when, as you will remember, patients in fever hospitals had only 600 cubic feet of space. Ventilation was thought harmful, and venesection must, one thinks, have caused all patients to present after long illnesses a similarly exhausted appearance. There was another and a greater difficulty. These fevers were apt to occur in different places each by itself, and as communications were less free and frequent then than now authors may not have seen them both. I have always been told that in the "thirties" of last century there was animated controversy between the [illegible]y and [illegible] or at [illegible]ight, *though each saw only his own side of the shield*; "fever" in Edinburgh was typhus, "fever" in Paris was typhoid. That neither of them would give in did both schools credit, for so we came to know the truth.

This raking amongst the embers of forgotten controversies will be of benefit to us if it makes us reflect and inquire whether such controversies are not going on amongst us now. Is it at all possible that among the less well-known and unnamed fevers of to-day there are not some as distinct as those others, which too, when discriminated, might be in their turn prevented? Public health has so greatly improved that we can expect no so marked results as followed the recognition of typhus and its subsequent prevention. Still, it may be worth our while to seek out and differentiate these others that in time, as I say, they may be stopped. It is a little novel this idea of going to look for a new disease; they are generally discovered more or less by accident. To pick out a new disease is much as if one were in a club where habitually one met some 30 or 40 Englishmen, but one night there appeared a Scotchman, and would one notice him? Essentially different he would be, but in appearance he might be very like an Englishman, or he might be very different. If one had no warning to expect a different sort of stranger one might class him in one's mind with some other member one knew like him, unless he spoke and failed us in English, which would be a sort of Widal reaction to test him.

Each new case as we see it we class with some others we have already seen, unless something very striking shows it to be peculiar, or unless many others suddenly begin arriving far more like one another than like any of those we have known about before. Each of us looks at cases from the point of view to which his own experience has conducted him, and his comparisons may be as different from those of his neighbours as was that of the little town-bred child on her first train journey in the country, who amused us all as we passed some sheep by her excited surprise at the "funny dogs those are." And probably that is how we shall meet a first case of a new disease. It will be "a funny case," "an odd case," an unpaired case that is. It is these odd cases, these residua, that repay investigation. That is how radium was found—in residues. That is how they find gold at the mines.

As to the local assignment of "fever" of which I spoke I was much struck with this in the "nineties" on the East Coast of Africa. Durban fever used to be talked of in the "seventies." In the "nineties" you heard no more of Durban fever. Durban had got settled, had sown, reaped, and was done with its wild oats. A reputation for fever now *attached itself to the ill-built*, untidy, or *sparsely* populated places up the coast—Beira, Chinde, Quilimane. These fevers all seemed to be malarial, but in those days we had no exact diagnostic, and we had advantage from calling these cases by names of the places where they originated, for we never knew when some other fever might appear nor whence—some other fever terrible as the dreaded blackwater fever—and the name it got would be a warning to the newcomer to give that place a wide berth if possible.

In the early "nineties" we classified fevers into (1) zymotic; (2) continued; and (3) malarial (which might be remittent or intermittent). Zymotic in East Africa (except dengue) we did not see, continued meant typhoid, intermittent are a well-marked class, and all other fevers were returned as remittent and ascribed to malaria, or in those days the same thing—climate. The preoccupation of every surgeon on this East African station was "fever"; it was climatic. You could not tell when it would visit your ship or when it would leave. It was climatic, so nothing could be done to prevent it, except keep out of the sun, but it was good to see your ship as clean, dry, and well ventilated as possible, for that increased comfort. When I joined the station I was very anxious about those men, obviously the most exposed to the climate, those who went away in boats cruising after slave dhows, and proposed to my captain I should medically examine them before they started and only allow the healthiest to go. He, however, who had been on the East Coast for a year, laughed at my anxieties and assured me that they were unnecessary. I could not see how this could be if the fever was, as everyone said, due to climate, but I did not press the matter, and I found the captain's view correct, for the fever, after all, was not really due to the climate directly at all.

To anyone reading the reports on the health of the East African station yearly appearing in the Blue-books from 1880 onward it must shortly become evident that within the group remittent fever were included cases of two quite distinct diseases—the first a true malarial remittent, not picked up aboard ship, but always contracted ashore, and generally, almost invariably, by sleeping ashore 10 to 15 days previously. See THE LANCET of Oct. 28th, 1899, where I repeat from the Blue-book for 1887 the history of a party of ten who passed the night ashore. The seven men slept and all got fever; the three officers who did not sleep escaped, for, being always kept awake by the mosquitoes and always brushing them off, they prevented any single mosquito from settling and so infecting them. For this fever quinine was specific. The second fever, on the other hand, appeared to have its origin exclusively in ships; neither in boats, whose crews continuously escaped it, nor ashore; nor did it spread from ship to ship; nor was it carried by wind. It might occur in ships at Zanzibar, but in no relation to the occurrence of fever ashore. In 1880 it was severe on H.M.S. *London*, the stationary ship at Zanzibar, when Zanzibar was healthy. In 1881 it attacked both ships and shore. In 1883 the epidemic in the *London* did not spread to the ships near her, so the infection was not carried, or at any rate did not spread, by wind. Further, it used to be noted that the fever diminished in the *London* when a cool wind blew off shore. In 1887 there was a bad season ashore, but ships suffered little. In 1884 it was reported from the *Euryalus* at Massowah, when it specially attacked the boys. She was described at the time as overcrowded, and those of her ship's company who were landed in Massowah were healthier than those who remained aboard, so it was not Massowah which gave it to them. This fever did not attack the natives serving on board ships, and it was noted to be specially prevalent at Zanzibar during the great rains in the first quarter of the year, both of which facts were held to prove its climatic origin. My view is that it was due to want of ventilation and overcrowding in the ship herself. It occurred in damp ships like the *London*, which was so full of rotten timbers that she was broken up in 1884. It occurred in the great rains; it occurred in ships which, with full complement, had been quite unnoticeably healthy in harbour but were sent to sea in bad weather, for in each case ventilation was impaired. In Zanzibar harbour in dry weather every port and scuttle is wide open and the awning, high up and horizontal, allows air to escape from the ship as freely as possible. At sea in bad weather the scuttles, &c., are closed, and in harbour during the great rains ports are half closed and the awnings sloped, imprisoning the air inside the ship. I did not know all this in 1895. I wish I had. That the natives escaped it too does not prove it was due to the climate. They had far more fresh air than any white man—they lived on the booms, a sort of flying deck above the upper deck, out in the open air—and this may equally explain their immunity, and now you see why the men away in boats escaped. Every now and then one of them would sleep ashore and get malarial fever, but more fortunate than their envied neighbours, with all the comforts of a ship, who with these also had the risk of infection, the boats' crews were thoroughly exposed to the climate and so remained healthy.

The fever of which I am speaking may be described as an asthenic pyrexia without special features. After two days' malaise and headache the patient would get nausea, retching, and vomiting; temperature 101° or 102° F.; pulse about 100; skin moist; bowels confined; headache, pain in loins, and sometimes even already marked exhaustion. Stage of advance: Temperature 103° to 105°; skin dry, often pungently hot; eyes suffused, headache, restlessness, perhaps delirium; tongue dry, thirst, anorexia, perhaps much vomiting; bowels confined; pulse and respiration fast; symptoms worse at night. We thought that this proved the fever to be, as we called it, remittent. I nowadays often wonder if it was due to the diminished ventilation, due to the stillness, the airlessness of a tropical night. Convalescence: Great debility, skin clammy; appetite slowly returned. Complications: Hæmaturia reported by one medical officer; I have known it followed by insanity; definite and routine sequelæ there were none; duration ten days, and relapses may occur. Treatment: Quinine is a good tonic but no specific.

In the *Archives de Médecine Navale* for May, 1895, is noted a report on the fevers of Massowah undertaken by medical officers of the Italian Navy, who found three different fevers: (1) Malaria cases, imported only; (2) an indefinite fever, no germ isolated; and (3) typhoid: (*a*) abortive—*Bacillus typhosus* in blood from finger; (*b*) developed. That reported from the *Euryalus* at Massowah in 1884 may perhaps be included in their No. 2. I was in those days serving at Zanzibar in the *Swallow* sloop, and we tried to get her thoroughly aired—windsail in every hatch and windscoop in every scuttle; we all felt this did us good. The old proverb is that a smart ship is a healthy ship, and she was pretty busy as well as pretty that *Swallow*, but I regret that I cannot give statistical evidence of her health. We got a great deal of malaria when landed, but we thought we did not have so many fever cases as usual. The lesson of these East Coast fevers may be thus stated. 1. The importance of accurate diagnosis; no prevention of the ship fever could be other than blind so long as it was supposed due to malaria or climate which you could not change. If we had dreamed it was due to stuffiness of the ship, I am sure the captain would have had the men sleeping away in boats or going route marches to let the ship dry, or something would have gone on being done till the right thing was found. 2. The importance of not being led astray by popular etiology. 3. The little direct influence on disease of that resultant of meteorological conditions called climate.

I must now ask you to consider another example of inaccurate diagnosis which also hindered prophylaxis and did much more harm, as there were far more people concerned. I now refer to what we called Malta fever. When I entered the service in 1885 the crux of the Naval Medical Department was, as we who then entered very soon learned, Malta fever—a great many cases for which we had no satisfactory treatment, with many invalidings though few deaths. No prophylaxis could be hopefully considered, for the disease we knew was due to the climate of Malta, which we could not alter, and, besides (here came in the mischief of faulty diagnosis), it attacked the soldiers as well as us. This fever was not described in the text-books; there was no book about it; we believed the people who had seen much of it knew something about it, but it was surprising how little they could tell us. In January, 1886, I was told off to the *Alexandra* in the Mediterranean, and naturally searched for all the information I could get. The most weighty came from the Inspector-General at Haslar, who had had long experience of the Mediterranean, and he kindly talked to me about this fever, concluding by advising me to keep a great-coat in our mess boat to protect me in going off to the ship at night. In fact, the only prophylactic then known was—avoid chill. We of the new ship's company for the *Alexandra* were sent to her from Portsmouth on Feb. 20th in H.M.S. *Tamar*. Reaching Malta on March 1st we were turned over to H.M.S. *Hibernia* for two months until the *Alexandra* had refitted. The *Tamar* was crowded, and in our own ship's company we had a dozen cases of pyrexia, indistinct at first, but later becoming pneumonia or bronchitis, and similar cases continued to occur after we left her until the end of April, when these cases were replaced by others called fever.

Marston[2] in 1860 wrote a paper on fevers at Malta, which appeared in 1863 in the Army Medical Department Report for 1861. He classified them as simple continued, typhoid, and gastric remittent. This classification practically it was that was followed in our returns in 1886. The simple continued fevers were the slight cases. Some medical officers there were who thought this a definite disease like typhoid. Others thought it a limbo for slight cases of fever due to undiscriminated infections; all slight cases of remittent and abortive attacks of typhoid, for example, fell into this group.[3] The prolonged and more serious cases were divided between typhoid and remittent. Those with more definite abdominal symptoms, diarrhœa, three weeks' pyrexia, and then lysis, and especially if they had a fatal issue, would be called typhoid, particularly if rose spots had been seen or a post-mortem examination had shown the ulcerated Peyer's patches. The rest that could not be called typhoid would be classed as remittent, and were of all degrees of severity, from the uncertain week-long pyrexia, which would have been called simple continued had not the temperature been so high and the symptoms so severe, to the well-developed case one sometimes saw with a prolonged weary clinical course without strongly marked features but going on relapsing, sometimes with well-marked rheumatic sequelæ (this I used specially to note in cases seen in the military hospitals), and a death-rate of 2 per cent. Except the typhoid, we thought all these fever cases to be the same and peculiar to the island. They were returned as remittent, but in conversation we called them Malta fever. Our attention was rather focussed on the bad cases, of which I saw a good many in my first week at Malta, when sent to do duty in the Naval Hospital and later at the Valetta Hospital, where was living Sir David Bruce, who showed me more.

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[2] I have not emphasised Surgeon-General Marston's work but in my mind it was obviously all-overshadowing. He discriminated in 1860 the Malta fever of Bruce from typhoid fever at a time when clinical methods only were available and so prepared the clinical grouping which made Bruce's work possible in 1886.

[3] Simple continued fever is by many [illegible] to be abortive [illegible] typhoid. It is reported, however, by Surge[illegible] of the *Powerful's* landing party of 250 men who [illegible] the Ladysmith suffered from this fever equally whether below or above the age of 25 years. This is quite a different age-incidence from that of enteric fever (Blue-book "Navy Health," 1899, Appendix).

We were then at Malta seeing a quantity of fever cases really undistinguished except by severity between slight febricula and a four or five months case of Malta fever, so I think there is a little excuse for us that we did not realise that they ought to be broken up into groups. Another difficulty I will tell you in a minute. None of us knew how these cases came, but the most frequent hypothesis was dirt. Bruce talked of soil saturated with the filth of centuries. [illegible]

Thinking it over again now, I feel that the army had more "rheumatism" as a sequela to their "fever" than fell to the cases in the service afloat. I did notice then that young soldiers one used to go and see at Cottonera Hospital had a rheumatism following fever much more crippling than that which our patients experienced. Here was the hint of a discovery which, alas! I did not make in time. What masked this observation, what gave our people rheumatism as a sequela, was that cases sent to our hospital sometimes got fever there (popular lay opinion said every case) from the milk—as we now know, but did not then,—and these cases might very well develop rheumatism even if none had it in ships from their primary infection. Then cases were called remittent fever which obviously were not so. I remember *Inspector-General Todd, then senior surgeon in the Alexandra*, showing me that a pyrexial case which I thought to have intractable Malta fever was really suffering from inflammatory fever and was at once cured by the opening of an abscess, and there were other people then just as young as I.

In 1891 I was sent to do duty at the Admiralty for a fortnight, and, having access to records, read up many reports on this fever, and that winter at Inverness, in medical charge of but a small ship's company, had time to write a report on Malta fever for the journal we send into office every year. This report, amplified, became, in 1895, my thesis for the degree of M.D. in Edinburgh. In that thesis I tried to [illegible], that Malta [illegible] be prevented [illegible] nvestigation seemed to lead to this same conclusion that I was confident this investigation of mine was sound. When, therefore, the Malta Fever Commission was being appointed I sent Bruce a copy of that thesis to help them. He said he would lay it before them, but indicated that in his opinion it would not advance them much. In 1906 Bruce's Commission had stopped Malta fever, and I found the surgeon I had got in H.M.S. [illegible] *read it, indeed, but to my vexation he, too, said it was of no* particular interest, adding that these older papers were quite unimportant now and gave no enlightenment, since the cases on which they were based could not—it was not possible they could—have been accurately diagnosed in those days.

I may explain here, as some members *may not remember* the dates, that in 1886 Bruce found in the spleen of fatal cases of Malta fever a micrococcus, the *Micrococcus melitensis* as it is now called, and by inoculating this into a monkey he proved it to be the cause of the disease. Several of us then went about pointing out the great cleverness of the medical profession which could find the cause of a disease so troublesome. We were, however, only met by our lay friends with biting remarks about the uselessness of knowledge of a disease which did nothing to help its cure, and our arguments that advances in knowledge were valuable in themselves had few takers. However, Bruce's discovery had, at least, made the accurate diagnosis of this disease possible in the post-mortem room, which was something, though otherwise it seemed to have been of no practical benefit, and so things remained for 10 years, until the Widal reaction was discovered. *Sir Almroth Wright soon noted that the serum of Malta fever cases clumped its bacillus alive or dead.* In about three years this reaction became generally used in Malta. Bruce's discovery had now led to the diagnosis of cases during life, but had certainly not yet improved treatment. In 10 years more we find the Commission hunting all over Malta for this micrococcus, finding it in goats, then in their milk, and so, in July, 1906, this fever was stopped, and there practically has been none since in the army or the navy. And it is better to prevent a man from wanting treatment for a disease than to give him, sick, the best treatment. Does not this all show that it is worth while to obtain any increase in knowledge, for trifling as it may appear at first there is no knowing how far-reaching it may prove; 1886: micrococcus found and diagnosis possible in post-mortem room; 10 years on (1897 to 1900): serum reaction and diagnosis made possible of cases *during life; 20 years after* (1906): fever stopped and no diagnosis required any longer. The history of the prevention of this fever is particularly interesting. It was so restricted in area and with so little to differentiate it in life from other fevers, that one cannot see how it was to be investigated unless Bruce had found the micrococcus—a specially hard nut for us of this society, who, when we hear of a disease, think of it as something to be prevented. How long would it have been before someone thought it worth while to trace the effect on each of the consumers during a month of the milk of each of a flock of 20 apparently quite healthy goats? Beside such a toilsome research, even Dr. Davies's patient and skilful unravelling (in Vol. XVII. of the Transactions of the Epidemiological Society) of the milk routes by which typhoid came to Clifton seems quite easy.

I will now go back to Surgeon Richards's opinion on my thesis. It was quite clear that he was correct; that thesis of mine did seem valueless. Malta fever was due to a specific *infection of goats' milk. Whatever could I have meant by* alleging it was due to faulty ventilation and overcrowding? Another thing puzzled me much. What were we in the service afloat doing with all that Malta fever from infected milk, when I suppose no milk was drunk on board ship except by the officers' messes and by their servants? The men never drank milk to my knowledge unless they were on the sick mess. Where did they get the fever?

In writing the results of overcrowding for a section of a book on naval hygiene which I was planning I recognised that the Malta fever of which I had written in my thesis was one of these diseases of overcrowding, and then became sure that in Malta, about 1886, there were at least two fevers unknown to the text-books of that day—one *Micrococcus melitensis septicæmia* of Bruce, due to infected milk, which specially attacked (1) people ashore, (2) the army, and (3) patients of the service afloat who got milk in sick bays or in hospital. This, by much the more important of the two, is the fever commonly known as Malta fever. The other fever which also occurred mainly, though perhaps not *exclusively, at Malta*, was a fever of overcrowded ships, attacking, so far as we yet know, only the navy, and of them only the crews of certain ships. This fever has since gradually decreased, till now the structure, management, and equipment of ships have so improved that one hears this fever has completely disappeared. *Bruce concerned himself only with the first; I concerned* myself only with the second. Again the case of opposite sides of the shield.

And now I must try to show you that some cases were due to overcrowding. You might think that overcrowding could *not but be recognised* and rectified. To prove how much overcrowded a ship could be without people clearly recognising that it was so I would quote a paper read to this society in 1863 by Dr. Smart, then an Inspector-General, on epidemic pleuro-pneumonia in the Mediterranean in 1860. The *St. Jean d'Acre* was commissioned in 1859, and by the end of June had *reached the Mediterranean. She was* considered overcrowded. The ship's company, 850 of them, slept in hammocks on the lower deck, each man having only 28 inches laterally, so that in harbour they formed, as the doctor, Edmonds, said, a compact mass. He notes that on April 8th the temperature of the air below the hammocks was 60° F., while that above was 81°. So considerable a difference produced strong draughts, which led the people near the ports to close them and thus made the ventilation worse. The lower deck is also reported as too damp *from* over-frequent washing. 153 cases of fever were sent to hospital in her first six months at Malta—continued fever, tending to become "remittent, many assuming a typhoid character." In fact, exactly like ours of 1886-89. She was sent to Corfu and improved in health, but returning to Malta three months later became, as the old word was, "sickly" again at once; in the succeeding nine months, though the overcrowding of the lower deck was a little reduced, 100 men being taken off it, there were noted these cases:—

Bronchitis	7	Pleurodynia	20
Pleuritis	19	Cachexia pulmonum (slight cases suggesting phthisis)	117
Pneumonia	13		
Hæmoptysis...	7		
Phthisis	102	Total	285

Things were not quite so bad as this suggests, for many of the cases were subsequently decided not to be phthisis, though they resembled it. But six cases did die. It is said that some new class of recruits had been taken in the ship, subjected to medical inspection less rigorous than usual, so I suggest that she was suffering from overcrowding with a considerable phthisical infection larger than usual. Overcrowding was indeed thought possibly a cause, but it was not definitely decided to be the cause. Decaying wood and foul bilges were also held to blame. No one was convinced that overcrowding was the cause. One wonders why all these men were put to sleep on the lower deck when there were two other decks higher up, and with better ventilation, almost untenanted. I expect this was a legacy from the great war and done to leave the guns on those other decks unencumbered in case of a night attack.

Now to take examples of this remittent fever in the Mediterranean, consider the *Royal Oak* in 1866. In previous years she had suffered much from fever and was now in June at Malta, and frequently sending cases of fever to hospital. "On June 18th the lower deck was relieved of 130 men, and from that time a decided improvement set in." At the same time the ventilation of the lower deck was much improved, and at the end of September the sick list was half that of the previous year. The sick rate, which had always previously increased in the third quarter, now fell off, and that for the Christmas quarter was the lowest hitherto in the whole commission of the ship.

In the "eighties" fever is frequently reported from the Mediterranean, and the annual reports generally state the *number of cases in the ship that suffered most.* These below are the big ships:—

Year.	Ship.	Cases.	Percentage of complement.
1882	*Monarch*	149	30
1882	*Superb*	136	20
1883	*Inflexible*	29	6
1884	*Superb*	124	20*
1884	*Alexandra*	82	12
1885	*Alexandra*	83	12
1885	*Téméraire*	60	10
1886	*Alexandra*	64	10
1887	*Alexandra*	70	10
1887	*Dreadnought*	11	2½
1889	*Dreadnought*	13	3
1890	*Agamemnon*	39	10

* Specially noted as due to Malta

It is to be presumed that those not mentioned suffered less. Now anyone acquainted with these ships will divide them at once into two groups:—

(1) Incidence 30 to 10 per cent.	Per cent.	(2) Incidence 10 to 2½ per cent.	Per cent.
Monarch	30	*Inflexible*	6
Superb	20	*Dreadnought* ...	3 to 2½
Alexandra	12 to 10	*Agamemnon*	10
Téméraire	10		

No. 1, with higher incidence, are called central battery ships. They have hand-worked guns and large complements of men required to work them and smaller space per man. No. 2, turret ships with few and power-worked guns, small complements, and more room, had small incidence. I will compare two of them in which I had the good luck to serve—*Alexandra* and *Dreadnought*.

	Alexandra.	*Dreadnought.*
Displacement	9800 tons	10,000 tons
Guns	12	4
Complement	750	450
Tons per man	13	22

The *Alexandra's* men were carried on three decks, so you can easily see that those sleeping below must have had less air than the men had in the *Dreadnought*, where very few were on a second deck, and those had artificial ventilation. The *Dreadnought* was much drier than the *Alexandra*. When I went to her I took over some clothes that in my cabin in the *Alexandra* were threatened with mildew, and this in my lower deck cabin in the *Dreadnought* was killed by the warm dry atmosphere.

We had a very interesting experience in the *Alexandra* in 1886-89. She was kept throughout the commission as clean and dry as possible. Her first lieutenant (now Admiral), F. S. Inglefield, painted the "flats" or lower deck white to show up the dirt. These flats were washed once a week with warm fresh water and carefully dried up immediately after; a deck-cloth was then put down, and this was sent ashore at the end of the next week to be washed to save dampness on board. For the first two years she was only cleaned by candle light, and in each year you see she had 10 per cent. of the men attacked with fever. Before the third year the ship was fitted with electric light, and now not only could a higher standard of cleanliness be attained but there was less damp and dirt from the burning candles. A boiler was always alight to run the dynamo, and what with the furnace drawing part of its air from the flats and so improving the ventilation, and what with the heating of the ship by conduction from that boiler, the flats became beautifully sweet, clean, and dry; the micro-organisms that used to grow there were removed or killed, we had only 3½ per cent. of the men this year down with fever, and we were no longer pilloried in the Blue-book. It is unsafe to over-minutely compare two *years with one another, for one does not know quite how* much time was spent at Malta, and it was at Malta that the ship suffered from this fever.

It is difficult to assign exactly the importance of humidity in the factors of health; it comes in in part directly as favouring the growth of micro-organisms, in part indirectly as a measure of insufficient ventilation. In my early days I thought that humidity must have great importance as a cause of disease, and in my journal for 1888 I was able to put in a note showing on two years' observations that in the *Alexandra*, with 700 men, at Malta in the winter, there was always a case of sore-throat at the morning visit if there had been recorded during the previous 24 hours a humidity of or above 80 per cent.[3] I thought then that the relation was direct, but the high percentage humidity was certainly an evidence of still weather in which ventilation was at its worst. There was a popular belief in the fleet that the fever was more frequent in still weather.

The experiences of H.M.S. *Trafalgar* in 1891 and 1892 are of great interest. She was a turret ship, but of a new pattern, with a secondary battery, the men, consequently, being more shut in than in the *Dreadnought*. The *Trafalgar* was in Malta Harbour near or in dry dock from Feb. 10th to May 5th, 1891, and returns 159 cases of continued fever, 85 of remittent, and 24 of enteric from a complement of 600 men. The fever rapidly increased from the beginning of April. The next year she was to spend the same period in dockyard hands, but a definite effort was made that there should be no fever this year. Windsails were hoisted everywhere possible, every attempt was made to secure cleanliness, dryness, and thorough ventilation of the ship. Also the men were daily landed by watches and sent to Corradino Parade Ground to air them and give the ship a better chance to dry, and while they were in dry dock this year no fever cases occurred.

But if this fever is only due to overcrowding in a ship why should it have been called Malta fever? It has, in fact, been reported from elsewhere, as, for example, from the Channel Fleet in 1884, where Inspector-General (then Fleet-Surgeon) G. Maclean, who afterwards came to the *Alexandra*, drew attention to the number of pyrexial cases which came on the list as soon as ships went to sea and had to close their ports and spoil their ventilation, and he notes how closely the cases that then present themselves resemble those known in the Mediterranean as Malta fever. These cases were more frequent at Malta than elsewhere. Why? There are three reasons:—

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[3] Having obtained statistical evidence of a relation between humidity and the occurrence of cases of disease, I was anxious to find other
I first.
For some years I sought in vain.
about 1780, quoted by him from a thesis,
ke mine submitted to the University of
I.D., but about 1750, and by my great-
ready mentioned. He afterwards became
and President of the Royal College of
posed to be the first person to describe
diphtheria; he called it croup. (See Löffler in Nuttall and Graham Smith's "Diphtheria.")

1. The biggest ships of the navy, those with largest complements, were at Malta, and it was generally numbers of cases, not percentages, that were reported and impressed people. The big ships of those days were only in the Channel and Mediterranean, and having only natural ventilation were always worse off than the small craft, the mess decks of which are quite close to the outer air.

2. The temperature at Malta was such that the ventilation of these large ships was there at its worst. When air is breathed it is heated, it is also made moister, and by each of these changes its specific gravity is lowered—that is, the expired air is lightened and these changes make it rise away from us. But it also has its lighter oxygen replaced by heavier carbonic acid, which tends to make it denser. The ultimate specific gravity of the expired air is the resultant of all these changes and varies at different temperatures. Dr. Shaw, director of the Meteorological Office, in his recent most valuable book, "Air Currents and the Laws of Ventilation," has calculated 81° F. as the temperature about which these processes balance one another, so that the difference between the specific gravity of inspired and expired air vanishes. As he says: "At such a temperature a crowd would inevitably be poisoned by its own breath." Now you may remember that 81° F. was the temperature of the air which Dr. Edmonds at Malta found the tars breathing in the *St. Jean d'Aro* during her great epidemic.

3. The physical conformation of Malta Harbour, so different from that of any other harbour with which I am acquainted, also helped to spoil the ventilation of the ships by keeping off them any possible breeze there might be. The Grand Harbour at Malta is wonderfully convenient for seamen. There is quite deep water close alongside, and I doubt whether ships of the deepest draught are anywhere else in the world so closely packed together, and as the water close alongside the shore is so deep ships are able to lie just under the high fortifications, another most unusual feature of this harbour. These great high walls shut off from the ships any little breeze there may be which might give us a little change of air on board in a warm night.

A study of the Blue-books will, I think, convince anyone that the incidence of "fever" was greatest on ships lying at the top of Dockyard and French Creeks and in the dry docks. Such was the experience, anyhow, of the *Enterprise* in 1866, *Monarch* and *Condor* in 1882, *Superb*, *Iris*, and *Carysfort* in 1884, *Agamemnon* and *Polyphemus* in 1887, and *Trafalgar* in 1891. In 1887 *Carysfort*, doing same work as in 1884, refitting in the summer, escaped fever because, as I think, the cholera scare of that year sent her out to Bighi Bay to lie, very inconvenient for her work and costly to the country, a cause probably too of great vexation to her people, but at the same time salutary. [illegible] Besides, [illegible] been [illegible] *Trafalgar*, in 1863, lost the fever when moved from French Creek to Bighi Bay, as did the *Enterprise* in 1886 when moved round to Sliema. A move of this sort seems generally to have done good, perhaps, of course, because it would not be mentioned unless benefit had accrued. And a move of this sort seems to do more good than a trip to sea, for the move to sea may be made in bad weather when the ports are closed and ventilation the more diminished. To return to the instructive vicissitudes of the *Alexandra*; in June, 1887, she had much fever, and leaving Malta we cruised up the Italian coast, but we did not begin to lose it, nor the patients to thoroughly and clearly improve till we got to Golfo d'Aranci in the N.E. corner of Sardinia, where a strong breeze (force 4 to 5) blew through the ship every afternoon.

What I hope you now recognise with me I may shortly state: that in Malta, 1886-89, there were two fevers unknown to the text-books—one, Bruce's *Micrococcus melitensis septicæmia*, commonly called Malta fever, attacking people who lived on shore, or drank milk, included amongst these last being patients sent to hospital from the service afloat; the [illegible] ack- [illegible] but [illegible] ying [illegible] rous temperature, a numerous fleet of our largest ships. Bruce was then concerning himself with his fever only, I specially with ours, while Gipps, working with Bruce at bacteriology, was involved with both. It is distressing to think how much good Gipps and I might have done at that day in earlier prevention if we had not fixed our attention so much on the stagnant filthy water of the harbour and had given more thought to the harbour air. I have taken up your time for too long. In conclusion, I would like to tell you that the management, equipment, and construction of ships have so much improved that this fever of overcrowding is not likely to recur in any considerable degree, even in Malta. The improvement in the health of the service is manifest. This society will readily, I suppose, accept phthisis as a measure of the degree of overcrowding. In the *Alexandra*, 1886-89, we had, per 1000 men per annum, eight cases of phthisis; in the *Galatea*, in Home Fleet, 1901-02, six cases; and in the *Exmouth*, 1905-07, the score had gone down to two. I am sorry I cannot tell you the sick list of the Mediterranean Fleet, but in 1901-02, in Home Fleet, the number generally off duty sick and in hospital was 4 per cent., but a new class of ships then came in, and in the Channel Fleet, 1905-07, the *Exmouth*, with flag of Sir Arthur Wilson, being flagship, the average percentage sick and in hospital was only two, and this, in the same climate, halved in four years. The *Exmouth* class had larger cubic space and corticine on the decks. They were the last class without artificial ventilation for the mess decks. So I expect that in new fleets of newer ships you will soon hear of still further marked reductions.

NOTES ON A FATAL CASE OF SPLENOMEGALIC POLYCYTHÆMIA (ERYTHRÆMIA).

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SOME few cases of this "new disease" have been recorded lately, and a very full and descriptive account of it was given by Professor W. Osler in THE LANCET of Jan. 18th, 1908 (p. 143). In the following case the cardinal symptoms of the disease were exhibited in the most marked manner; but the complications of chorea and general thrombosis, which brought about a fatal termination, have not, as far as I know, been noticed before, and I venture to think, therefore, that they are worthy of record. In a considerable number of the cases cerebral hæmorrhage appears to have been the cause of death.

The patient, a married woman, aged 34 years, first came under my care in October, 1905. She had been seen a few times by my locum-tenent, whilst I was away on my summer holiday, for what she thought was a miscarriage, but which was evidently only a rather profuse period after an absence of menstruation for about four months. When I saw her this had ceased, but I found hæmaturia, which lasted a few days and was followed by permanent albuminuria. The patient was a thin, wiry woman of a nervous temperament, bright, cheerful, and very active, and she expressed herself as feeling perfectly well. There was nothing of much note in the family history, except that all were "nervous" and that one brother had died young from phthisis. The patient herself had only suffered from the ordinary diseases of childhood. She had never had rheumatic fever, or any other form of rheumatism, chorea, or attacks of tonsillitis. As a girl she had suffered from anæmia. She had never been abroad and there was no history or suspicion of syphilis. She was married in 1900 and lived in the Midlands. Soon after her marriage she began to notice a bluish colour in her complexion; this had gradually become intensified and was [illegible] in cold weather. It had not in any [illegible] lth, but it had led to remarks by [illegible] to her being stared at in the [illegible] considerable annoyance. Before marriage her menses were rather irregular and they continued so afterwards. In August, 1902, she had a miscarriage, being about four months pregnant. From this time menstruation was [illegible] more irr[illegible], sometimes being absent fo[illegible] and she had seen [illegible] hen I first saw her [illegible] May, [illegible]).

On examination I found no signs of disease in the heart or lungs; the liver was not felt, but the spleen was considerably enlarged and extended three or four fingers' breadth below the ribs; it was not tender on pressure. The kidneys were easily palpated; they were somewhat moveable and distinctly enlarged. A specimen of urine was sent to the Clinical Research Association and the following report was received: "Sp. gr. 1013; albumin present in considerable amount; a few granular tube casts and red blood discs present. There is evidence of nephritis, suggesting that the hæmorrhage has been associated with some renal condition." The radial arteries were considerably thickened but not tortuous and could be rolled under the fingers. The pulse was regular, about 96 per minute, and very tense. The whole body was of a remarkable colour. The cheeks, nose, lips, ears, and fingers were bluish-red, and the skin of the chest, back, and abdomen was of a uniform deep-red hue. The palms of the hands were also quite red. There was no clubbing of the fingers. Tiny venules were noticeable on the cheeks and the conjunctivæ were suffused. The whole appearance was novel and startling, quite different from anything I had ever seen before. I at first thought I had a case of chronic nephritis with unusual symptoms of cyanosis to deal with, but soon came to the conclusion that such was not a satisfactory diagnosis.

At the end of November, 1905, I sent a specimen of blood for a count of the corpuscles to the Clinical Research Association, and received a note saying that the specimen was useless for examination, as it had not been accurately diluted. A second specimen was sent, and the average of two counts gave the following results: red cells, 9,400,000 per cubic millimetre, and white cells 8400 per cubic millimetre. A note was added saying that "These figures agreed sufficiently closely to prove no mistake had been made in the first count, and that they had not before seen such extreme plethora, but that figures little short of the above had been found by Cabot of Boston in two cases, in which the only signs were cyanosis without evident cause." A few weeks later my friend, Dr. J. J. Douglas of Upper Norwood, kindly saw the case with me and examined the blood. His figures were even higher—viz., red cells (which looked normal), 11,500,000 per cubic millimetre; white cells, 17,000 per cubic millimetre; hæmoglobin, 138 per cent.; colour index, 0·6; proportion of red to white cells 640 to 1. The blood was extremely dark in colour, viscid, and coagulated very quickly.

I now recognised that the patient was suffering from polycythæmia, associated with enlargement of the spleen and cyanosis, and she was allowed to lead her ordinary life again. This she continued to do without feeling ill and with practically no variations in the symptoms till just before Christmas, 1907—i.e., for two years. The cyanosis persisted but was less marked in hot weather, the spleen remained about the same size, and the urine always contained about one-fourth albumin. There was no subsequent attack of hæmaturia, epistaxis, or any other kind of hæmorrhage. Menstruation only occurred at long intervals and was always scanty. During this period I kept her under constant observation and treatment was chiefly directed towards attempts to establish regularity of the menstrual function and to effect dilution and to diminish the coagulability of the blood. For several months large quantities of saline fluid were taken regularly: citric acid, citrates, and iodide of potassium were all tried persistently, but nothing had any effect on the cyanosis, the spleen, or the condition of the blood. At first, and for some time, diet consisted of milk and farinaceous food, but gradually fish, poultry, and a little meat were permitted.

Just before Christmas, 1907, some indistinctness in speech was noticed, and this was attributed by the patient to a crack in a dental plate. I accepted the explanation and allowed her to go to Yorkshire for the Christmas holidays. On her return it was evident that she had chorea and that this, and not the dental plate, was the cause of the imperfect articulation. The patient was, of course, ordered to bed. The left side of the body was first attacked and the leg most severely, but the whole of the body quickly became affected. Almost immediately she complained of aching pain in the left side of the neck, and this I attributed to the choreic movements; in a few hours, however, this proved to be due to thrombosis of the jugular vein, and swelling of the left arm appeared.

As the condition now appeared to me to be serious, I asked Dr. H. G. Turney to see the patient with me. This consultation took place on Jan. 9th, 1908, and I cannot do better than give an extract of some notes made by Dr. Turney, a copy of which he kindly sent me. "Patient is quite clear mentally; talks with animation and without difficulty, except that due to the choreic movements. These affect trunk and limbs alike. There are no signs of paralysis; reflexes are everywhere present and normal in character. There is a strikingly cyanotic tint over the whole body. This tint is not limited to the cheeks or mucous membranes, but is remarkably uniform. The left side of the chest and the whole of the left upper limb are much swollen. The skin here is absolutely purple, the colour being most intense about the infraclavicular region and the left shoulder. Large veins are visible by their deeper colour, and can be rolled under the fingers as solid cords. This consolidation can be traced up the neck along the course of the jugular vein as far as the angle of the jaw. There is no œdema of face, eyelids, mastoid region, or scalp. The venous plugging is not perceptible in the axilla or down the arm. On the right side of the chest the veins are moderately distended, contain fluid blood and pulsate, the pulsation having presystolic rhythm. The hypogastric veins are more visible than usual. The lower limbs are not œdematous. There are large purpuric patches over both knees and smaller ones over the ankles. The venous pressure, calculated by Dr. George Oliver's method, showed a pressure of at least 40 mm. of mercury, as the veins on the dorsum of the right hand did not collapse, even when the limb was held vertically. [There was no thrombosis in the right arm at this time, and it did not appear till several weeks later.] The radial pulse is very firm and tense and does not subside during the diastolic period. With Martin's modification of the Riva-Rocci sphygmomanometer the high pressure of 170 mm. was registered. The pulse, which was 120-140 during examination, was regular. The heart sounds are clear. The spleen reaches 4 inches below the ribs; it is firm on palpation and not tender. The kidneys are large and moveable, the right more than the left. The urine contains a considerable amount of albumin, but no blood. The temperature is normal. The pupils are equal and active; there is no squint or nystagmus. The fundi are normal, except that the veins are large and tortuous." Bromide and citrate of potash were given as medicine and the left arm was kept elevated and bandaged.

The chorea became very severe, and after a few days, as no relief was obtained, phenazonum was tried. Under this drug the chorea rapidly subsided. The œdema of the left arm diminished slowly, the intense dark colour gradually disappeared, and the limb reassumed its former colour. The jugular vein and the superficial veins on the shoulder remained blocked. On Feb. 16th the patient was allowed to get up for a short time and continued to improve for a few days. On the 26th choreic movements in the left foot reappeared and the patient was again kept in bed. On the 28th she complained of pain in the region of the spleen, which was distinctly tender on pressure; there was a slight rise of temperature, but after two or three days the pain, tenderness, and fever disappeared. On March 2nd swelling of the left thigh was noticed, and pain was complained of in the hypogastric and left iliac regions. Examination per vaginam revealed nothing abnormal. On the following day the whole leg and foot were œdematous and almost black in colour, as the arm had been. There was also a good deal of pain in the thigh and calf. The leg was bandaged and kept elevated. On the 4th the right leg began to swell and on the following day became very dark and swollen like the left. This discolouration soon extended on to the abdomen up to a sharply defined line at the level of the umbilicus; whilst the face, arms, and upper half of the trunk were not nearly so cyanosed as usual. The abdominal superficial veins became also very much distended. Both legs now were kept elevated and bandaged. The vulva became œdematous and such obstruction to micturition was caused that it was feared a catheter might have to be used. This was not, however, necessary, although the vulva still remained much swollen, especially on the left side. Petechial extravasations along the course of the small veins appeared on the lower half of the abdomen, and the abdominal wall and back became rapidly œdematous. On the 10th the spleen, which had been noticed to be getting smaller since the legs had been thrombosed, only extended below the ribs for about an inch. The amount of urine passed during the last days had been about 60 ounces per diem and contained much less albumin than I had ever previously noted. Small ulcers now appeared on the inner side of the lips and cheeks and on the tongue, and the chorea became worse again. On the 21st the ulcerative stomatitis, which had caused great discomfort, had disappeared under the exhibition of chlorate of potash, and the choreic movements had also again ceased. The legs had been very painful, necessitating lead and opium fomentations, and were still very œdematous, though not quite so dark in colour. Aching pain was now complained of in the right axi[illegible] and lower part of [illegible] dark. The right [illegible] puffy, and the spleen was noticed to be getting larger again. A slight cough was now first noticed; but no physical signs could be detected in the lungs. On March 25th the abdominal wall and back were very œdematous, but no free fluid could be detected in the abdominal cavity. The amount of urine passed per diem was now about 40 ounces only and contained no albumin. The patient seemed a little drowsy at times. The cough had become much more troublesome and respiration was quicker. The lungs were resonant all over; air entered well right down to the bases and there were no moist sounds. On the 27th the temperature was 100° F. and the pulse was 140; the usual rate for some time had been about 116; the tongue, however, was clean, and the appetite remained good.

On March 28th the patient was decidedly worse; the pulse was slightly intermittent, and the respirations were 36 per minute and shallow. Œdema of practically the whole of the body now existed but was greatest over the lower half of the abdomen and back. The legs, however, were still kept elevated. During the evening, breathing became, somewhat suddenly, very rapid and laboured, and though it improved after a short time, in the early morning of the 29th it became again much worse. When I saw the patient at 4 A.M. the dyspnœa and restlessness were most distressing. I could still detect nothing in the lungs; air entered well all over and resonance was unimpaired. I yielded to her entreaties to be placed in an armchair, and after this had been carefully done the dyspnœa was considerably relieved. After some two hours in this position she went back to bed and had some sleep. On the following day she expressed herself as feeling much better. The respirations were still very quick, 42 per minute, but the patient was certainly much more comfortable. She remained in bed all day, well propped up with pillows, and took nourishment well, although some more ulcers were beginning to appear in the mouth. She was passing very little urine. She had a much better night, with several sleeps of over an hour's duration. The cough was, however, troublesome and the respirations were 50 per [illegible] she seemed decidedly [illegible] in his mind, for town. [illegible] with the most intense dyspnœa, and when I saw her half an hour later she was unconscious and in a moribund condition. The breathing was gasping in character, the radial pulse was almost imperceptible, and the cyanosis of the face was intense. Strychnine and digitalin injections were given hypodermically and oxygen was freely used, but although a slight improvement in colour took place consciousness never returned and death occurred shortly after 2 P.M. in the afternoon. No post-mortem examination was performed. Unfortunately, a blood count had not been made for some time, as I had put it off from day to day owing to the serious condition of the patient.

The occurrence of thrombosis in a case of this disease seems to be a complication that one would almost expect, and yet, as I said, I have seen no mention of such general thrombosis in any of the cases published hitherto. Dr. Turney has, however, seen one case in which thrombosis occurred in the veins of the leg and was followed by a transient hemiplegia, the mode of onset of which, quite apart from thrombosis in the leg, made the diagnosis of cerebral thrombosis the most probable. The main veins in all four limbs and both sides of the neck became blocked and remained so, and though in the left arm a collateral circulation was established, with diminution of the cyanosis and œdema, in the other limbs no such amelioration of symptoms occurred. In the lower part of the body thrombosis commenced in branches of the external and internal iliac veins and ultimately the thrombosis, I think there is little doubt, spread to the inferior vena cava and the right side of the heart. The cough and dyspnœa at their onset might have been due to minute emboli in the smaller pulmonary arteries but more probably were due to thrombosis in the veins, and these symptoms were unaccompanied by any physical signs in the lungs that one could detect by the stethoscope or percussion. The fatal attack, too, was most probably due to thrombosis extending to the right side of the heart, blocking its valves and thus causing death—though there is the possibility of a large pulmonary embolism arising from a detached clot being the cause.

The association of the chorea with the thrombosis is extremely interesting. In cases of chorea associated with endocarditis, embolism of the smaller cerebral arteries, arising from vegetations carried from the mitral valve, has been one theory advanced as the cause of the disease. In this case there was absolutely no evidence of any endocarditis, affection of the mitral valve, or history of rheumatism, and therefore no condition likely to have given rise to cerebral embolism, but there is a strong probability that thrombosis first occurred in the smaller cerebral veins before appearing elsewhere and that the chorea was directly caused by this pathological condition.

The case seems to me to afford additional evidence in support of the theory that chorea is associated with embolism or thrombosis of some of the blood-vessels of the brain. On the other hand, the particularly clear mental condition right up to the end seems to negative any extensive cerebral thrombosis.

Sydenham, S.E.

ADENOIDS, NOCTURNAL INCONTINENCE, AND THE THYROID GLAND.

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IN the autumn of 1908 I was instrumental in obtaining a presentation to Christ's Hospital for a boy, aged nine years, and he was admitted on Sept. 16th. When he had been there for seven weeks his mother was informed that he had twice suffered from nocturnal incontinence, which was an old but infrequently recurring trouble with him, and that if this happened again he would have to be removed until he was cured. It did happen again. The boy was accordingly brought to town and I asked Dr. StClair Thomson to examine him with a view of ascertaining whether he was the subject of adenoids. Adenoids, according to the text-books, are one of the two commonest causes of nocturnal incontinence. The other, phimosis, could be excluded, the boy having been circumcised as a baby. Dr. StClair Thomson found that adenoid vegetations were present, but while agreeing to operate he warned me that he had frequently known nocturnal enuresis to persist after very thorough removal of adenoids and tonsils, even in cases where no other cause could be discovered.

The operation was performed on Dec. 12th and the patient made an excellent recovery. On the 15th he was allowed out of bed and seemed quite well. That night he wetted his bed and continued to do so on each of the next 15 nights—i.e., until Dec. 29th. In every other way he was perfectly well.

The removal of the adenoids and tonsils, so far from ameliorating his condition or holding out any hope of ultimate cure, had thus quite evidently aggravated it; for whereas formerly the incontinence occurred at intervals of weeks it had now become regular and persistent. The extent to which the bed was wetted was such as to suggest that the [illegible], and this in spite of [illegible] the child out of bed [illegible]

The position was a serious one. The patient was the son of a widow who was entirely dependent upon her own exertions, and the condition of his return to Christ's Hospital was that he should remain free from nocturnal enuresis for three months. How was that freedom to be secured? Large and increasing doses of belladonna, the classical remedy of the text-books, naturally suggested themselves; but even if they *succeeded*, their continuance, in the case of a boy at a large public school, presented serious and even insuperable difficulties. Was there no other course? A consideration of the events above related suggested to my mind the possibility that the removal of the adenoids had deprived the patient of some internal secretion which up to that time had partially protected him against these accidents; that, in fact, the adenoids, instead of representing a superfluity of naughtiness on the part of the organism, had, in reality, been developed for some useful purpose. In pursuance of this idea I decided to try the effect of thyroid extract. The thyroid gland has very intimate relations with the lymph glands, and adenoids consist of lymphoid tissue. Superficially there was not much encouragement to be obtained for this experiment from the boy's general condition. He was spare rather than stout, and so far from being lethargic he was very bright and intelligent. He was, however, undersized, being shorter by two inches than the average for his age. His pulse-rate was 74, his blood-pressure 100 millimetres of mercury. He began taking thyroid extract in Burroughs and Wellcome's tabloids of half a grain, one night and morning, on the night of Dec. 30th. The effect was most dramatic. The enuresis immediately ceased and, under the influence of the thyroid treatment, it has never since recurred. On Jan. 5th, 1909, that is, six days after the treatment was commenced, he had gained over five pounds in weight (from 4 stones 4 pounds 4 ounces to 4 stones 9 pounds 7 ounces), and on the 13th he reached 4 stones 11 pounds—the average for his age, at which he has remained. As the dose of half a grain (which I had tendered in the first instance not without misgiving) was so well borne on Feb. 14th I increased it to two and a half grains three times a day, thereby taking a step which, as will appear later, was so dangerous that it might very easily have turned success into disaster.

In view of so simple an issue from what threatened to be a calamitous *impasse*, I searched the literature to see whether any similar case had been reported. English authorities, both on the subject of enuresis and thyroid medication, I had already exhausted without finding a hint as to a possible connexion between the two. I now turned with some confidence to the recently published work of Léopold-Lévi and Henri de Rothschild,[1] some scattered papers by whom I had read in periodicals. Here I found the subject of enuresis mentioned on several occasions in connexion with patients who were the subject of thyroid insufficiency, but the mention in each case was merely incidental, and nothing was said as to the effect of the treatment on the enuresis. In the course of the book, however, I found several references to the work of a Belgian writer, Dr. Hertoghe of Antwerp, who had evidently made the thyroid gland an object of careful observation. I therefore consulted his writings, and amongst them there is a paper read before the Royal Academy of Medicine of Belgium entitled "Nouvelles Recherches sur les Insuffisances Thyroidiennes; l'Incontinence d'Urine Nocturne chez les Enfants et les Adolescents,"[2] in which the author insists strongly on the curative influence of thyroid extract in nocturnal enuresis and quotes some convincing cases. A perusal of this paper, overlaid though the subject is with much extraneous matter, encouraged me to try the effect of the treatment on children in the out-patient room of the Metropolitan Hospital, and I accordingly asked Mr. Sydney Vosper, now the senior house physician, to collect as many cases of the kind as he could. But for this gentleman's willing and even enthusiastic coöperation, of which I desire to express my warmest appreciation, it would have been impossible to have brought the investigation of the subject to its present point.

We have seen in all 25 cases. Of these only one has failed to respond to the thyroid treatment. The failure in this case (Case 12, quoted hereafter) was absolute and unequivocal. Of the remainder some were brilliantly successful, all were improved, and in no case has the thyroid extract produced any of those untoward effects of which we are taught to beware.

CASE 1.—The patient, a girl, aged 11 years, was first seen on Feb. 2nd, 1909. She had wetted her bed every night since birth. For the last few years she had in consequence slept on straw. She was dull and apathetic but not stupid. She was thirsty but her appetite was poor. The patient was not undersized and her weight was 5 stones 1 pound. The tonsils were somewhat enlarged, but there were no adenoids or nasal obstruction. The temperature was 99° F. in the mouth. One and a half grains of thyroid extract three times a day were ordered. Feb. 9th: The patient had missed wetting her bed for the last three nights—the first in her life. The same dose of thyroid extract was ordered. 16th: On three successive nights the bed had not been wetted. The dose of thyroid extract was increased to two and a half grains three times a day. 23rd: No enuresis had occurred during the week. Thyroid extract was ordered as before. March 2nd: No enuresis. 9th: No enuresis. 12th: No enuresis.

CASE 2.—The patient, a girl, aged nine years, first came to the hospital in May, 1908, complaining of cough, dyspepsia, and anæmia. Examination revealed nothing definite and a provisional diagnosis of pretuberculosis was made. Nothing was said about noctural enuresis and it was not inquired for. The patient improved under cod-liver oil and iron. On Feb. 5th, 1909, ten months later, she returned, and the fact of the enuresis was then elicited. The child, it appeared, had suffered without intermission from diurnal polyuria and precipitancy, as well as nocturnal incontinence, since birth. She was thin and anæmic but had no nasal obstruction. She was intelligent but tearful. The cod-liver oil and syrup of iodide of iron were repeated, and she was given in addition one and a half grains of thyroid extract four times daily. 12th: The patient had missed wetting her bed on six days out of the seven, the first in her life. She remained away from the hospital for 14 days, during the last seven of which she was without thyroid extract. During the first seven days she wetted the bed once, and during the second twice. The treatment was continued. March 5th: No enuresis. 12th: No enuresis. 16th: No enuresis.

CASE 3.—The patient, a boy, aged eight years, was first seen on Feb. 5th, 1909. He had wetted himself by day as well as night since birth, was very backward at school, and was undersized, being only 3 feet 4 inches instead of 3 feet 11 inches in height, while his weight was only 2 stones 11 pounds instead of 3 stones 13 pounds. He was a voracious and rather indiscriminate feeder. Two months previously he had been put on the table for *adenoids*, but it was found that he had a febrile temperature, so the operation was postponed. The temperature now was 97·2° F. He was given two and a half grains of thyroid extract *four times* daily. On the 12th the mother reported that during the week the patient had not had a single diurnal accident, and that he had only wetted his bed twice. He was brighter. 19th: The patient had wetted his bed once only during the week. March 5th: The bed had been wetted twice during the week. 9th: There had been no enuresis. 16th: No enuresis. 23rd: No enuresis. The temperature was now 98·4°. The patient no longer breathed through his mouth.

CASE 4.—The patient, a boy, aged three years, was first seen on Feb. 16th, 1909. He had been wetting his bed two or three times a week for three months. He had been subject also to noctural attacks of diarrhœa, not infrequently accompanied by vomiting. There were adenoids, a large abdomen, and beads on the ribs. The patient's weight was 2 stones 1 pound 8 ounces and his temperature was 96·4° F. He was given one and a half grains of thyroid extract three times a day. 23rd: The bed has been wetted once only during the week. The dose of thyroid extract was increased to two and a half grains. March 9th: There had been no enuresis for a fortnight and no attack of diarrhœa. 16th: There had been no enuresis; 5 pounds in weight had been gained, the abdomen was less prominent, and the patient was much brighter. He snored less at night and kept his mouth closed.

There are three other cases (Cases 5, 6, and 7), those of a girl aged eight years, a boy aged three years, and a girl aged ten years, which are in every way as satisfactory as those above quoted. There are four others (Cases 8, 9, 10, and 11) in which the patients, after showing decided *improvement*, disappeared, after the manner of *out-patients*, and have not so far been traced.

CASE 12.—This case, the subject of which was a girl aged seven years, is the only one which has up to the *present* shown no signs of improvement. The patient was brought to the hospital on Feb. 16th, 1909, with the *story* that she had wetted her bed, generally more than once a night, ever since her birth. The parents had had one other child who had died from a cause unelicited. The patient had always been delicate. She was not, however, undersized, and her weight of 3 stones 7 pounds was up to the average. The temperature was 98° F. She had enlarged tonsils but free nasal respiration. She was given two and a half grains of thyroid extract night and morning. On the 23rd the mother was of opinion that, although the enuresis had occurred every night, there was an improvement, inasmuch as it did not occur so often nor so soon after retiring. The thyroid extract was ordered to be taken four times daily instead of twice. On March 2nd there was no improvement. The mother thought the child worse in every way. On the 9th there was no improvement; she was therefore given iodine and arsenic in addition to the thyroid extract. On the 12th there was still no improvement. She had lost weight; her temperature was 99°.

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[1] Etudes sur la Physio-Pathologie du Corps Thyroide (Octavo Doin, 1908).

[2] Bulletin de l'Académie Royale de Médecine de Belgique, IV. Série, Tome XXI., No. 4.

The remaining 13 cases, some of which have been but a short time under treatment, all show very definite evidences of amelioration, though none can as yet be described as complete cures. The response in each case has, however, been so decided as to encourage the confident hope that a continuance of the thyroid treatment, reinforced if necessary by iodine, arsenic and calcium, all of which have direct relations with the functions of the thyroid gland, will ultimately be attended with perfectly satisfactory results. I append three typical cases, numbering them 13, 14, and 15.

CASE 13.—The patient, a boy, aged 13 years, had always suffered from nocturnal enuresis, for which he had in vain sought relief at various hospitals. He also complained of abdominal pain at night. He had a high arched palate and large tonsils. Examination confirmed the presence of adenoids, which his appearance suggested. One brother had a hare-lip. The patient was undersized, being 4 feet 6 inches instead of 4 feet 9 inches in height, and he weighed 4 stones 11 pounds instead of 5 stones 3 pounds. At school he was only in the third standard; he ought to have been in the sixth. He was given two and a half grains of thyroid extract night and morning. On Feb. 23rd he reported having been free from enuresis on four nights, and the nocturnal pains were less. The dose of thyroid extract was increased to five grains night and morning. On March 2nd it was ascertained that, though feeling much better, he had been free from enuresis on one night only. 9th: The patient had had four nights of freedom. 16th: Four nights of freedom. 23rd: No enuresis. The patient had gained weight, he snored much less at night, and his nasal respiration was improved. The abdominal pains no longer troubled him. He was given a tonic in addition to the thyroid extract.

CASE 14.—The patient, a girl, aged six years, was first seen on March 2nd, 1909. She had begun to wet her bed two months previously after an attack of mumps, but had not done so before. Since then she had suffered from constant nocturnal enuresis and frequent diurnal accidents. Digital examination revealed adenoids. The weight and temperature were normal. She was given two and a half grains of thyroid extract night and morning. On the 9th it was ascertained that during the past week she had wetted the bed on two occasions only and that there had been no diurnal accident. The appetite was much improved and the patient was brighter. The thyroid extract was ordered to be taken three times a day instead of twice. 16th: The bed had been wetted every night; a tonic was therefore given in addition to the thyroid extract. 23rd: There had been one night of freedom. The dose of thyroid extract was reduced.

CASE 15.—The patient, a boy, aged eight years, was admitted to the French Hospital on Feb. 22nd suffering from bronchitis. His mother stated that he had had noctural enuresis and diurnal accidents without any intermission since birth, and had been ineffectually treated in the Paris hospitals for this condition. He had no phimosis, no adenoids, and only moderately enlarged tonsils. He had always been apathetic and tearful. He was given one and a half grains of thyroid extract three times daily. In spite of the fact that he was taken up once and sometimes twice a night the nocturnal enuresis continued unabated for ten days, but the diurnal accidents ceased. On March 4th, in addition to the thyroid extract he was given iodine and arsenic, and on the 6th he began to improve. On the 8th the dose of thyroid extract was increased to two grains, and the nurse was told not to get him up at night. On the 11th, 12th, and 13th there was no enuresis, and during the following week it occurred on three occasions only. The child became much better. The temperature, however, remained low, from 96·2° to 97·2° F.

The deductions to be drawn from this inquiry are several, if not many, but as I am anxious to avoid overloading the present communication I will restrict myself to what seem to be the most important.

The first is that adenoid vegetations can no longer be regarded as a cause of nocturnal enuresis. Without at present going so far as to say that, as suggested by the case which forms the opening part of this paper, the adenoids afford some measure of protection from nocturnal accidents of this nature, I feel justified in asserting that when the two conditions are associated, which they often are, but as often are not, they are both due to a common cause—namely, insufficiency of the internal secretion of the thyroid gland. This insufficiency accounts for the vast majority of cases of nocturnal enuresis in children, as shown by the fact that the exhibition of thyroid extract will in a comparatively short space of time effect not only a cure of the enuresis but a great amelioration of many coexisting evidences of ill-health. It will be observed that in none of the above cases have belladonna and hyoscyamus, which constitute the somewhat slippery and brutalising sheet-anchors of the text-books, played any part in the treatment. Where it was thought desirable to employ anything in addition to the thyroid extract, these additions have consisted of tonics such as iron, arsenic, and iodine.

The very remarkable improvement in the general health of the patients under treatment for enuresis by thyroid extract induced me to try the effect of the drug on two or three children who suffered from debility due to other causes. The case of one of these affords a lesson which it is well to lay to heart, a lesson which, had it presented itself sooner, would, I believe, have saved me from some disappointments and possibly from my one complete failure. It was that of a boy, aged nine years, who had been under treatment on and off for two years for general debility consequent on an attack of nephritis from which, so far as physical signs were concerned, he recovered perfectly. He had a rickety thorax but no adenoids. He did not suffer from nocturnal incontinence and had a normal temperature and a normal palate, but the miracles wrought by thyroid extract in the other cases moved me to give it a trial in his case. He was therefore given two and a half grains three times daily in addition to the cod-liver oil which he was already taking. The result [illegible] then frame of mind, it was [illegible] week of thyroid extract tre[illegible] in his life, suffered from nocturnal enuresis. The obvious inference from this was that the thyroid secretion is a regulator of the mechanism by which urinary incontinence is controlled, an [illegible] of the secretion being almost, if not quite, as deleterious [illegible] is brought home to me I [illegible] I now recognise that in the treatment of enuresis by thyroid extract the question of dosage is not only of paramount importance but also of the utmost delicacy. It is essential to success that the initial dose should be very small; that this dose should be increased very cautiously, if [illegible] dose which experience proves [illegible] should be steadily persevere[illegible]y, by such [illegible]tioned. The cause of failure [illegible] been not so much a want of [illegible]ation on the part of the [illegible]y part in regulating the dose, and if I am successful in tracing this patient I shall undertake her treatment on this hypothesis with very considerable confidence.

Harley street, W.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.—The summer term at the National Hospital in Queen-square will commence on May 4th with a lecture by Dr. J. S. Risien Russell on the Significance of Paralysis in Cranial Nerves. Clinical lectures and demon[illegible] will be held at 3.30 P.M. on the following [illegible] (with the exception of June 1st) until J[illegible]

STREPTOCOCCAL PERICARDITIS AND COLITIS FOLLOWING TONSILLITIS.

By J. SIDNEY PEARSON, M.A., M.D. CANTAB.,
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THE two cases recorded below are, I think, of some interest on account of their similar and unusual symptoms and as warning of the possible dangers from an apparently slight attack of follicular tonsillitis. I do not think that the colitis was a mere incidental complication. In neither case did it give rise to any symptom until the hæmorrhage occurred.

CASE 1.—The patient, a well developed, healthy-looking girl, aged 20 years, was treated on April 26th, 1907, at St. Mary's Hospital, Plaistow, for follicular tonsillitis. On the 28th she had pain in her limbs but no trouble in any of her joints. The tonsillar condition was well by the 30th, but the pains had not yielded to salicylates. On May 3rd her temperature was found to be 105·6° F. and she was admitted into the hospital under the care of Mr. S. J. Wareham. The only points in the history were that her mother, who was in the country, "suffered with her heart." The patient had always had trouble with her bowels and had been treated two years previously for chlorosis.

On admission she did not appear to be very ill. The temperature was 105° F., but she was quite conscious and took a great interest in her own condition. Examination revealed pain on pinching the muscles, especially the thighs. There was no pain in the joints. There were a few small pustules on the buttocks. The heart sounds were well heard and there was no increase of cardiac dulness. She was put on a mixture containing sod. salicyl. gr. xv. every two hours, and shortly the temperature fell to 102°. On the evening of May 5th it rose again to 105°, but the patient seemed no worse. Typhoid fever was suspected, but there was no evidence, and Widal's reaction was negative throughout her illness. On May 6th the temperature was 106·8°, but there was no sign of delirium. Cardiac dulness had increased up to the second left space, and later in the day pericardial friction was detected for the first time. On the 8th the patient became drowsy and later delirious. On the 9th there was incontinence of loose fæces. On this day the urine, which had contained albumin throughout, was found to have a trace of blood in it and the next day was quite dark red. Pustules appeared on the outer aspects of the soles of the feet. There was no œdema or desquamation. On the 10th I heard from Dr. J. W. H. Eyre of Guy's Hospital that he had obtained a pure culture of streptococcus longus from the blood. Antitoxin was given on the following day, but her condition remained the same. On the evening of the 12th the patient suddenly passed about two pints of dark red blood per rectum and died shortly afterwards. The stools, which had been watery, had not shown a sign of blood previously. A post-mortem examination revealed intense inflammation of the pericardium, which contained about two ounces of thin pus. The layers were rough, shaggy, and thickened. There was no endocarditis, the valves being healthy and competent. The whole length of the large intestine was studded with shallow, irregular ulcers varying in size from a threepenny-bit to half a crown. One large and deeper one was seen in the descending colon.

CASE 2.—The patient, a girl, aged seven years, was admitted on July 23rd complaining of pain in the knees, which, however, were neither red nor swollen. Five days previously she had had an acute tonsillitis, of which there was still slight evidence. No history of rash was obtained. The cardiac sounds were normal. The apex beat was in the fifth space nipple line. The temperature was 102·6° F., the pulse was 144, and the respirations were 42. She was put on sod. salicyl. gr. xv. every four hours. The temperature fell in a few hours, but pains persisted. The temperature was as high as ever on the next day, and on the following rose to 105·4°. Pericardial friction was now heard, and there was increased cardiac dulness. On the evening of the 29th I discovered an unusual phenomenon. The temperature in the right axilla was 102°, compared to 106·4° in the left, whilst the rectal temperature was 104°. I confirmed this by two thermometers, placing them in different positions, but always with the same result. The child became very apathetic, and later delirious. The streptococcus longus was grown from the blood and 10 cubic centimetres of anti-streptococcic serum were injected daily. On August 7th and 9th the child passed about two ounces of bright red blood per rectum and after this the stools were often blood-stained. Pustules appeared on the buttocks on the 12th. On the 14th the child began to improve. The heart sounds became more audible and the dulness less. She left the hospital on Sept. 14th for a convalescent home and returned a month later quite well. She was on various drugs, including five grains of sodium sulphocarbolate, which seemed to improve her, but I should not like to lay any stress on this.

These two cases were so much alike that I was prepared for the late developments in the second case. The hemipyrexia was discovered by a nurse, and since this case I have frequently observed that in acute pericardial effusions the temperature in the left axilla is often a degree higher than in the right; in fact, I look upon this sign when present as very suggestive of pericarditis and one which may be useful when the auscultatory signs are doubtful.

I am indebted to Dr. E. B. Randall and Mr. Wareham for permission to publish their cases.

New Cavendish-street, W.

A SIMPLE METHOD FOR THE STERILE COLLECTION OF BLOOD.

By HUGH W. BAYLY, M.R.C.S. ENG., L.R.C.P. LOND.,
ASSISTANT, BACTERIOLOGICAL DEPARTMENT, ST. GEORGE'S HOSPITAL.

WHEN collecting numerous samples of bloods by venipuncture the use of a syringe necessitates a considerable waste of time as the syringe cannot, after use, be plunged into boiling water without great danger of cracking, neither can it be safely removed from boiling water. If the temperature is gradually raised to boiling point and then lowered about ten minutes will be required for each case. If an all-metal syringe is used it is impossible to see whether the blood is flowing into the barrel properly. Also, if a metal plunger is used and pure uncitrated blood is required (as is the case when the blood is required for the serum diagnosis of syphilis), the thin film of blood between the plunger and the barrel is liable to clot, when the plunger becomes immoveably fixed in the barrel. This is obviated by lubricating the plunger with oil or vaseline, but as this must be done after sterilisation there is an added opportunity for contamination. If a rubber plunger is used it is not always smooth and satisfactory in working in a dry barrel.

I have, with Dr. Charles Slater's kind help, devised the following simple little apparatus which I find quite satisfactory, and which permits of the collection of 18 samples in an hour of whatever quantity may be required. Instead of a syringe I use a hollow metal needle holder two and three-quarter inches long, having a finger-grip half an inch from the nozzle end. The bulbous distal end is connected by about four inches of rubber tubing with a sterile test-tube, into which the blood flows directly (see Fig. 1). I use needles one inch long and with the calibre of a large exploring needle. J. H. Montague, of 69, New Bond-street London, W., has made me a small case containing 18 needles

FIG. 1.

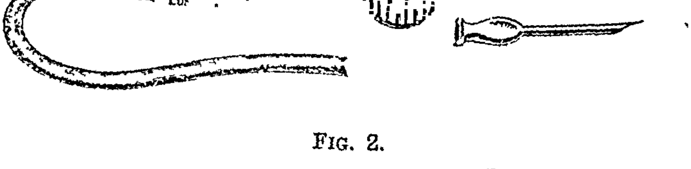
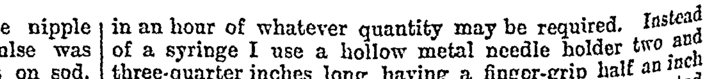


FIG. 2.



and two holders, and while I am using one holder, the other, with tubing attached, is being sterilised.

I use a fresh needle for each case, and the needle will slip into the vein with ease if lubricated with a little sterile vaseline, and for this purpose I use a five cubic centimetre serum flask, filled to the shoulder with vaseline, which is autoclaved at 120, and after the vaseline has solidified a few drops of izal are introduced into the neck of the flask, which is then covered with a sterilised rubber teat. The needle, immediately after removal from the steriliser, is dipped into the vaseline before use. After use the holder and tubing should be washed through with a small glass urethral syringe to remove the blood before placing in steriliser.

If the patient objects to venipuncture, which is seldom the case, I use the glass tube depicted in Fig. 2 with which I can easily collect one cubic centimetre from the finger. The tube is made from No. 4 glass-tubing with one end drawn out into a capillary tube and the other end sealed and a bulb blown near the drawn-out end with a small hole blown in its side (see Fig. 2). The tube is held with the hole in the bulb uppermost and the blood will flow into the bulb by capillary attraction and then collect in the sealed end, the displaced air escaping through the hole in the bulb. After filling, the drawn-out end is sealed in the flame and the hole in the bulb is sealed with wax.

Brook-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NOTE ON SOME NON-TUBERCULOUS THROAT COMPLICATIONS OF PHTHISIS.

By Harold S. Barwell, M.B. Lond., F.R.C.S. Eng.,
SURGEON FOR DISEASES OF THE THROAT, ST. GEORGE'S HOSPITAL,
SURGEON TO THE THROAT AND EAR DEPARTMENT, HAMPSTEAD
GENERAL HOSPITAL, LATE LARYNGOLOGIST, MOUNT
VERNON HOSPITAL FOR CONSUMPTION, ETC.

TUBERCULOUS laryngitis is by far the most important of those complications of phthisis which affect the upper respiratory tract, so much so, indeed, that it is apt to overshadow all the others and to receive the exclusive attention of the laryngologist as well as of the physician. Nevertheless, other complications are very frequently encountered

claim some consideration.
the larynx has often been
ems to mean an abnormal
congestion, or swelling of
it but without as yet any

true tuberculous deposit, and it is implied that this is a precursor of tuberculous infiltration. The use of this expression appears highly unscientific, for there are no grounds for the view that there is any distinctive state of the larynx which is always, or frequently, followed by tuberculosis. There is also a very general opinion that pallor of the larynx is a characteristic feature of tuberculous laryngitis, but this opinion requires qualification. Many consumptives are anæmic, and in such cases the larynx, as well as the fauces and other mucous membranes, are, of course, pale; in other cases the colour is quite normal, and very frequently the tuberculous larynx is in a state of hyperæmia as the result of coughing and irritation; in fact, it may be stated that tuberculous larynges are reddened quite as frequently as unduly pale. It is true that the swollen infiltrated arytenoids are often pallid, and that the margins of tuberculous ulcers are characteristically anæmic, and this may have given rise to some misconception; but very often tuberculous infiltration is decidedly red and congested, especially on the cords, ventricular bands, and epiglottis.

Simple chronic pharyngitis and laryngitis are extremely common among consumptive patients and not infrequently give rise to mistakes in diagnosis, for there is naturally a tendency to diagnose tuberculous laryngitis in a phthisical patient who complains of hoarseness and discomfort in the throat. The frequency of simple inflammation of the larynx may be explained by the strain of constant coughing and by the contact with irritating sputum which contains numerous micro
their products in addition to the tubercl
the absence of other distinctive signs a unifor
both vocal cords should not be diagnosed as t
but if one cord be affected markedly in excess of
tuberculosis may be strongly suspected. The subj
active phthisis often complain of much dryness and
comfort in the throat, especially at night, even when there
no obvious nasal obstruction. This appears to be the resu
of the nocturnal pyrexia and the consequent rapid respiration which makes nasal breathing insufficient. A drink of hot milk or a demulcent lozenge diminishes the sense of discomfort. Patients in quite an early stage of phthisis sometimes complain of painful sensations about the throat which on examination appears perfectly normal. The cause of this is obscure; it may, perhaps, be that the pain is referred from the pulmonary disease to the most sensitive part of the respiratory system. Be that as it may, the symptom is not very uncommon, and I would suggest that the patient who complains of pain about the larynx for which no cause can be found should be submitted to a careful examination of the chest.

Pachydermia laryngis is also disproportionately common among the subjects of pulmonary phthisis; indeed, Gougenheim[1] considered the majority of cases of pachydermia to be tuberculous. I personally consider the affection as an extreme form of chronic laryngitis and due to the same causes; it is therefore natural that it should be frequent in the larynges of consumptives exposed to the mechanical irritation of coughing and the chemical irritation of the sputum without, of necessity, any entrance of the bacillus tuberculosis into the tissues. The firm white, almost cornified, appearance of a typical case is very different from the soft semi-translucent granulations of tuberculous laryngitis. On several occasions I have removed the pachydermatous thickening from the posterior commissure of consumptive patients and have failed to find any sign of tuberculosis on microscopical examination.

It is well known that in c
voice is readily lost and is
would be with a similar
cause, such as syphilis. But apart from any laryngeal affection, functional aphonia is very common among consumptive patients. The feeble respiration, the general weakness, and the tendency to catarrh and discomfort of the throat all conduce to this affection, which is found in male as well as female consumptives, though more frequently in the latter. It is so frequent that an examination of the chest is advisable in every case of intractable functional aphonia. True paralysis of a vocal cord is also a recognised complication of pulmonary phthisis. It is due to pressure on the recurrent laryngeal nerve, and is therefore of the abductor type. Paralysis of the left cord is the result of pressure on the left recurrent laryngeal nerve by enlarged bronchial or tracheal glands, but the right nerve passes very close to the apex of the right pleura and is thus sometimes directly involved in an infiltration of the lung on this side. This is, perhaps, the commonest cause of paralysis of the right vocal cord, therefore the possibility of pulmonary phthisis should always occur to the mind of the observer who discovers this lesion on laryngoscopic examination.

Thus, other complications of pulmonary phthisis occur in the throat besides tuberculous laryngitis, and deserve recognition; and in a few cases where the first complaint is of the throat a correct estimate of their significance may direct the attention to the pulmonary disease.

Wimpole-street, W.

NOTE ON A CASE OF JACKSONIAN EPILEPSY TREATED BY TREPHINING.

By W. Bernard Secretan, M.B. Lond., F.R.C.S. Eng.

THE following are notes of a somewhat unusual case of Jacksonian epilepsy, in which cessation of the fits was brought about by operation.

The patient was an anæmic woman, aged 24 years. Her occupation was that of a clerk. About 16 years ago she fell down a flight of steps on to her head. She was not stunned at the time and was apparently able to get up by herself and go home. Eight days after, however, she developed a very severe headache, which was followed the same night by three convulsions affecting the left arm and leg. Each convulsion lasted only a short time. The next day the left arm and leg were found to be paralysed. The arm recovered after about five months; *the leg remained more or less useless for* a year, and weak for much longer, necessitating the wearing of supporting irons. The growth of the leg was also impaired, so that it is now considerably shorter than the right. Since the paresis passed away the patient up to the date of the present illness had always enjoyed good health with the exception of "a nervous breakdown" in the spring of last year. This, however, only seems to have lasted a week.

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[1] Atlas de Laryngologie et de Rhinologie, p. 16.

The present illness followed a spell of extra work at book-keeping, owing to the absence of one of her fellow clerks. She came home one week end complaining of intense headache; this continued and on the following Monday she was seen by her own medical man, Dr. C. G. S. Leeds. He found her in a dazed, dreamy condition, every now and then crying out with the pain, which was not localised to any one spot but affected her whole head. She was given bromide, phenazone, and later aspirin, and appeared to improve somewhat, so that on the following Thursday the pain was decidedly better. On the Friday night, however, she had 11 convulsive attacks. The convulsions were limited to the left arm and leg, affecting the former more than the latter. They lasted from two to five minutes and apparently there was no complete loss of consciousness. On the Saturday morning there was a temporary cessation of fits, but they recommenced in the afternoon so that by the following day (Sunday) the patient had had another 20. By this time the convulsive movements were more violent and in some of the worst attacks there was complete loss of consciousness. Clonic movements of the muscles of the face and of the eyeballs also occurred. The patient was able to tell when a fit was about to occur and would cry out to this effect about a minute before the actual onset.

I saw her with Dr. Leeds, and as she was obviously going downhill and becoming more and more exhausted we decided to trephine the next morning. By that time (Monday) she had had another 29 attacks, and so frequent were they becoming that no less than four occurred whilst we were in *the house making our preparations. I turned down the usual* scalp flap and removed an inch and a quarter disc of bone over the right fissure of Rolando, having its centre about one and a half inches from the upper end of the fissure. I could find no depression or thickening of the bone, nor was the dura adherent to the skull. The brain bulged a good deal into the opening. The dura was incised for about three-quarters of an inch, without, however, throwing any further light on the case, and finally the scalp was sutured in position over the hole in the skull. The night following the operation the patient had altogether six fits, but these were not nearly so severe as her former ones. The next day she had none. That night again she had three very slight attacks. Since then up to the present time (six months) she has had none. The headache ceased the day following operation. The woman to-day is fit and fell. She has only been allowed to do easy work, but is very anxious to do more. She says that her head is much clearer than formerly and that she is much quicker *at figures and less easily fatigued* by them than before her attack.

The case is remarkable on account of the long period of time which elapsed between the initial injury and previous attack and the present one. Also on account of the benefit resulting from trephining, although nothing abnormal was found *at the time of operation.* I am not, of course, at the end of only six months so bold as to call the patient cured. Time alone will show that. I see no reason though why the fits should recur provided the woman can be induced to lead a placid, quiet life. Anyhow, the operation undoubtedly saved her life at the time.

Reading.

IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.—A special meeting of this association will be held at Harrogate on Saturday, May 22nd. Arrangements have been made with the Majestic Hotel to allow of members remaining *until Monday to visit* places of interest in the neighbourhood. Full particulars may be obtained from the honorary secretary, 30, Myddelton-square, London, E.C.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Arterial Blood-pressure Readings.

A MEETING of this section was held on April 27th, Dr. T. H. GREEN being in the chair.

Dr. O. K. WILLIAMSON said that observations by the method of circular compression were made on the leg and arm of the same patient in 21 cases of high arterial blood pressure. In all of the cases in which the arteries of the leg and foot could be felt these were found to be abnormally resistant and more so than those of the upper extremity; and in nearly all the cases there was also marked thickening in the arteries of the upper extremity. Ten cases of normal or low blood pressure, in which the arteries presented no clinical evidences of disease, were investigated in the same manner, so as to afford a basis of comparison. The observations were made on the calf and arm, the patient observed being recumbent, and the part of the limb on which the observation was made was at the level of the heart. Oliver's compressed air hæmomanometer was used with his 12 centimetre armlet. These observations showed that the resistance due to the arterial wall might markedly influence the readings, for the following reasons: 1. In the high blood-pressure cases the leg systolic readings were in nearly all cases markedly higher than the corresponding arm readings (average difference 32 millimetres), and the cases of highest blood pressure yielded distinctly greater differences than the cases of somewhat lower blood pressure. On the other hand, the leg diastolic readings in these cases were, on the average, practically identical with the arm diastolic readings (average difference less than 2 mm. Hg). 2. In the case of normal or low blood pressure the systolic arm and leg readings were found, on the average, to be identical (average difference less than 2 mm. Hg) 3. Inasmuch as the blood pressure in the leg could *not be higher than that in the arm (either* limb being at the level of the heart), and *seeing* that the influence of the tissues superficial to the artery might (when a sufficiently wide armlet was used) be neglected, it necessarily followed that the difference between the arm and leg readings could only be due to resistance of the arterial wall. 4. The conclusion that the abnormal condition of the arterial wall was a direct result of the increased blood pressure would seem to be inevitable, for the only obvious difference between the conditions to which the arteries of the legs and those to which the arteries of the arms are exposed in daily life was that, owing to the action of gravity, the former were subjected to greater hydrostatic pressure from a higher column of blood than were the latter.

Dr. GREEN said that it was very important to determine how far the pressure readings were influenced by the condition of the vessel wall, and on that point there seemed to be no definite agreement amongst various workers on the subject. A great deal had been done in the matter during *the last few years,* but much remained to be done. While waiting for that further information physicians had to be largely guided by their own unaided senses. When the blood pressure was largely increased and when the arteries were markedly thickened those facts were evident to the trained finger. There seemed to be danger at the present time of relying too much *on instrumental aids.* Even with the best instruments if there was not clinical skill physicians might fall far short of what they ought to achieve.

Dr. W. P. HERRINGHAM said that he had been making experiments on arteries that had been removed from the body 24 hours, and on arteries that had been three days out of the post-mortem room, being kept during those three days in a 1 per cent. solution of sodium chloride. He found that those arteries still gave in some cases high resistance readings just as other arteries did. The figures he obtained were 8, 13, 5, 4, 6, 12, 15, and 22 millimetres, showing that there was something in the artery itself quite apart from contractility. He had also been experimenting on simultaneous readings from the arm and leg, testing two places at the same moment, and his results confirmed those of Dr. Williamson.

Dr. T. D. SAVILL asked whether the author of the paper had compared the condition of the arteries in the lower limb with those in the upper limb in the cases quoted. In his (Dr. Savill's) prolonged investigation into the condition of the arteries in many old people at workhouse infirmaries he found that in most cases the leg showed a more advanced stage of degeneration than the arm. He had convinced himself that there was an initial stage of arterial hypermyotrophy or increase in the middle coat of the artery, prior to degeneration. He believed that the vital condition of the artery was of very great importance, and pointed out that the arteries after death were of different size to what they were during life.

Dr. LEONARD E. HILL said that he had not found evidence of the differences in pressure recorded by Dr. Williamson and substantiated by Dr. Herringham. He (Dr. Hill) laid stress on the importance of taking the readings in the two limbs simultaneously.

Dr. C. O. HAWTHORNE said that before they could accept the figures put before them they must be confirmed by other observers. He questioned whether that discussion on blood pressure was of great clinical importance. In addition to noting the element in the blood pressure due to the systole of the left ventricle they must appreciate the condition of the peripheral arterioles.

Dr. WILLIAMSON replied.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on April 26th, Mr. C. B. LOCKWOOD, the President, being in the chair.

Dr. F. J. POYNTON and Dr. W. L. SCOTT showed three cases of Recurrent Familial Jaundice in a female, aged 22 years, in her sister, aged five years and eight months, and in a brother aged eight years and five months. The predominance of anæmia was striking in all three cases. Jaundice, though at times most definite, and in the eldest of the patients very striking, occurred only in definite attacks and could not be said to have been at all persistent. By daylight, however, the eldest had always an icteric tinge. In accord with the usual history of this type, the spleen was enlarged more in proportion than the liver; the varying size of the liver had been noteworthy. Dr. Scott observed that he had seen in each case an attack of deep jaundice with clay-coloured stools.

Mr. V. WARREN LOW showed a case of Congenital Dislocation of the Hip-joint treated by manipulation in 1905. The patient, a girl, who was now aged ten years, went to St. Mary's Hospital in 1905 with a congenital dislocation of the left hip-joint. Mr. Low saw her first in September, 1905, at the age of six and a half. The child then had the typical gait of a patient with a unilateral congenital dislocation of the hip-joint. There was 1½ inches shortening of the left limb. The upper end of the femur could be felt on the dorsum ilii and could be brought down to the level of the acetabulum. The limb could be freely moved in every direction except that of abduction. The mother said that the child could not walk more than half a mile without complaining of her leg and back, and that her peculiar gait always excited comment in the streets. The operation by manipulation (Lorenz) was performed in September, 1905. The child left the hospital a month later in plaster; this plaster was retained for six months. She was then readmitted to hospital, her leg was straightened under an anæsthetic, and a second plaster applied. This she wore for six months. Some stiffness and lameness remained for six or eight months after the second plaster was removed. There was now no shortening; the child walked without a limp and was able to run, skip, and walk considerable distances without fatigue.—Mr. T. H. KELLOCK emphasised the importance of recognising that the so-called "bloodless" reduction of Lorenz was a severe operation. He congratulated Mr. Low on the success he had achieved in the case before them.

Mr. KELLOCK showed a case of Traumatic Meningo-encephalocele cured after lumbar puncture and slight pressure. The patient was a child, aged three years. When nine months old she was admitted to the Hospital for Sick Children, Great Ormond-street, for a swelling on the head. The mother stated that the child was quite normal at birth and that there was nothing wrong with her until 14 days before admission, when during the mother's absence from the room the child fell on the floor, where she was found unconscious, convulsed, and of a blue colour. A swelling was immediately noticed on the side of the head, which the mother stated increased in size whilst she was watching it. On admission the child appeared to be quite healthy. A soft pulsating tumour of the size of half a Tangerine orange was situated over the centre of the left parietal bone; it was partly reducible on pressure and was felt to project through an uneven opening in the bone. The head was noticed to be rather flatter than normal behind, and the child had what was described as a "harsh cerebral cry." A day or two later the lumbar puncture was done and one and a half ounces of slightly turbid fluid were withdrawn. The tumour immediately disappeared and the opening in the bone could then be distinctly felt, with radiating fissures extending from it. Two days later the tumour had slightly re-formed, a pad with an elastic band was applied which controlled it, and this was worn for some little time after the child's discharge from the hospital. She had not ailed in any way since. There was no tumour to be felt, but the opening in the parietal bone still existed.

Dr. F. PARKES WEBER showed a case of Symmetrical Atrophy of the Hand Muscles with Cervical Ribs and a family history of cervical ribs. The patient was a girl, aged 13 years, showing nothing abnormal excepting in regard to the upper extremities. There was decided wasting of the thenar, hypothenar, and inter-metacarpal regions—that is to say, involving the intrinsic muscles—in the right hand, and to a lesser degree in the left hand. Faradic irritability was much reduced or altogether absent in the affected muscles of the right hand. The right hand was weaker and usually felt colder than the left hand; the dynamometer grasp in the right hand was 5 and in the left hand 15. There was no absolute anæsthesia, but there was decided hypo-æsthesia, especially to temperature, on the ulnar side of the right upper extremity, notably in the hand. The hypo-æsthesia to temperature involved the whole of the right hand, not merely the ulnar side; brachial blood pressure (Riva-Rocci method, with broad armlet) in the right arm was 90 mm. Hg.; in the left arm, 105 mm. Hg. The patient complained of occasional pain in the front of the right arm and forearm and sometimes in the hand. A skiagram by Dr. N. S. Finzi showed a small seventh cervical rib ([illegible] larged transverse process) on each side, but the one on [illegible] of the two, and its extremity ap[illegible] first dorsal rib. Palpation above did not reveal their presence. The history was that during the last two years the patient had occasionally suffered from pains of a sharp, shooting character in the right upper extremity, generally in the front part of the arm and forearm. The wasting in the hands was first observed two or three months ago. No similar muscular wasting had been observed in other members of the patient's family, but skiagrams (likewise taken by Dr. Finzi) showed the presence of similar seventh cervical ribs (or enlarged transverse processes) in her brother and sister. These were both younger (aged eight and 12 years respectively) than the patient, and the abnormal bony projections seen in the skiagram appeared to be less calcified and somewhat smaller; if they increased in size, as they might do about the time of puberty, atrophy in the hand muscles might then occur, although there was none at present. The father, aged 34 years, has been found, by skiagraphic examination, to be free from cervical ribs (or enlarged transverse processes), but no examination could be made in the case of the mother. They had only three children and all three of them, as already stated, had cervical ribs or enlarged transverse processes. The family history confirmed the observations of Theodore Thompson and others on the presence of seventh cervical ribs as a family peculiarity. The connexion of symmetrical atrophy of the intrinsic muscles of the hands with the presence of seventh cervical ribs had been explained by the writings of Thorburn, Lewis Jones, W. W. Keen, Hinds Howell, and Theodore Thompson. It appeared not to be so much the length as the shape, and especially the curvature, of the supernumerary rib on which the interference with the first dorsal nerve root (which in these cases gives rise to the atrophy of the hand muscle) depended. If, as Thorburn supposed, the cervical rib produced its effect by lifting up and stretching the brachial plexus, it could be understood that the grey matter of the spinal cord might sometimes be likewise affected so as to produce a partial dissociation of sensation resembling that which occurred in cases of syringomyelia. This might explain the supposed association of syringomyelia with the presence of seventh cervical ribs in some cases which had been reported. Muscular atrophy in the hands when due to the presence of cervical ribs occurred in girls or young women and was more frequently observed, or was more obvious, on the right side than on the left.—Mr. LOW asked what was the percentage of cases with cervical ribs in which nerve symptoms occurred, and Dr. LEONARD G. GUTHRIE pointed out that the ulnar side of the left hand of the patient showed a different temperature from that on the radial side, and said that that condition might be produced by some involvement of the first dorsal and the last cervical nerves.—Dr. WEBER, in replying, did not consider that a sufficient number of cases had been collected to determine the percentage for which Mr. Low had asked.

Dr. GUTHRIE showed a case of Progressive Muscular Atrophy in a man in which the onset had been gradual, lasting for seven months.

*Dr. G. WILLIAM HILL demonstrated direct vision laryngo*scopy on a female from whom a growth on one vocal cord had been recently removed by endoscopic surgery; tracheoscopy on a female with laryngitis and tracheitis; tracheobronchoscopy on a female with laryngitis, tracheitis, and asthmatic symptoms; and œsophagoscopy on a female with functional dysphagia.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 21st, Dr. P. Boobbyer, the President, being in the chair.—Dr. A. C. Reid read a paper on the Value of Ehrlich's Diazo Reaction to the General Practitioner. In this he pointed out the diagnostic value of the test in early cases of enteric fever. The disease must, however, have reached a certain stage before the reaction was present. When this stage had been arrived at the reaction was in his experience constant. It was also constantly present in miliary tuberculosis, but the differential diagnosis of typhoid fever was not so difficult from that disease as from febricula, gastric fever, abdominal influenza, and low broncho-pneumonia. The reaction did not merit the neglect it received from the general practitioner. As a negative test it occupied a foremost place, and as a positive reaction, when taken in conjunction with other signs, tests, and symptoms, it had considerable importance.—The President, Dr. F. H. Jacob, and Mr. O. Kentish Wright confirmed the value attached to this test by Dr. Reid.—Dr. A. J. Sharp, in opening a discussion on the Notification of Births Act, 1907, traced the changes brought about by the Act in the matter of still-births and exemption of the mother, and discussed the question as to how far a new duty had been laid upon the medical practitioner. Explaining the object of early notification as the first step in a movement for the reduction of infant mortality, he reviewed the various measures which had already been put into operation. Amongst these were baby-shows, bounties payable on the child attaining a certain age, systematic visitation by voluntary or paid workers, mothers and babies' "welcomes," the encouragement of maternal suckling, day nurseries, milk depôts, school instruction in hygiene, and general sanitary progress. Tracing various objections to the Act, that on the score of professional secrecy was the most serious and persistent, but this had no basis of support in law when a duty became public and statutory. Indeed, as regarded children not born in wedlock, they were above all others the ones who most needed the strong arm of the law to protect them. Their death-rate was at least double that of legitimate children.—Dr. S. E. Gill, continuing the discussion, emphasised the point that at the Nottingham Welcome no medical treatment of mothers or infants was attempted, but everything else that could be done in the way of encouraging the poor and inexperienced mother to feed, to clothe, and to tend her babe in a rational and hygienic way was done. In this way the more intelligent mother would act as a focus of knowledge and an example in her neighbourhood by which the general standard of infant hygiene and parental responsibility might be gradually raised. Indeed, the more aristocratic mothers might i directly become more disposed to fulfil their natural oblig tions to their infants, which at present were apt to be shelv in favour of the theatre or playing bridge.—The Preside pointed out that the Nottingham Welcome, although it h only been in existence about eight months, had alrea secured an average attendance of 200 babies per month. Mr. C. L. Rothera (Nottingham city coroner) agreed th the subject of infant mortality was one very vital to t health of the nation, and pointed out that the Childr Act, 1908, laid down medical aid as a necessity whi parents were compelled to provide for their children. I also drew attention to the elaborate system prevaili at Leipsic and elsewhere in Germany, by which children we examined weekly at a central depôt, so that any defe in the matter of health could be promptly detected ar dealt with.—The discussion was continued by Dr. J. Watso Dr. J. A. Waring, and Dr. W. Hunter.—Dr. W. Tibbl showed a Siamese, aged 19 years, the subject of Chron Œdema of One Hand and Forearm of one and a half year duration. The case had been carefully examined by M James Cantlie, who had considered the possibilities of i being due to local irritation, synovial inflammation, filari *ankylostomiasis, and angio-neuroses such as urtica* exaggerata, &c. A guess had been hazarded that it might b rheumatic, but there was no reason to attribute it to tubercl or specific disease. Blood examination had shown eosinophi corpuscles to be excessive, which rather suggested an inte tinal infection. Indicanuria also existed, raising a suspicio of disturbed proteid metabolism. Treatment by bandagin the hand in thick wool, sour milk internally, and a mixtu of oleum ricini cum oleo eucalypti had brought about som improvement, but a careful search in the stools had failed t reveal any parasite.—Dr. R. B. Purves (Lincoln) showed Myomatous Uterus with the Deflected Cavity resulting, ar Dr. Jacob showed microscopic specimens of Diplococci Intracellularis from a case of epidemic cerebro-spin meningitis.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.— meeting of this society was held on April 20th, D T. Jason Wood being in the chair.—Mr. W. H. Horrock showed: (1) Concretion from an Appendix which had bur through into the bladder and become coated with pho phatic deposit; and (2) Uterine Fibroid.—Mr. F. W. Goyd showed: (1) Sequestra removed from a case of Lumb Abscess; (2) a case of Serous Meningitis treated by drainag through the posterior fossa of the skull; and (3) a Brain wit Multiple Tumours, ? Nature.—Dr. Wood showed: (1) Carcinoma of the Breast with Enormous Mass of Glands in th Axilla; and (2) Uterine Fibroid.—Mr. J. Phillips and Dr. R. Honeyburne opened a discussion on Appendicitis. Mr. Phillips thought it best for the purposes of discussion to be somewhat dogmatic. He divided appendicitis into three types, the first of which he called the "simple type." In these cases, which were the mild ones, there were abdomina pain, tenderness in the right iliac fossa, a certain amount of fever, and quickening of the pulse. The treatment consisted in (1) absolute rest in bed; (2) no food of any sort nothing but water being allowed; (3) clearing out the lowe bowel by an enema; and (4) if necessary a simple carminativ mixture. As a rule these cases got well or they might pass o to the second type, the cases with a swelling in the right ilia fossa. These cases could safely be left till things quietene down. Operation was not advisable at first as owing t adhesions and inflammation it was usually a very difficult procedure. When operation was performed the appendix shoul always be sought for and removed. The third type (th gangrenous cases) were the cases in which the catastrophes occurred. Diagnosis was very difficult. It rested chiefly on facial expression and the rigidity of that segment of the rectus muscle underneath which the appendix lay. Immediate operation was the only treatment. The best incision was one just above Poupart's ligament. The pus should be mopped out and a gauze drain inserted. On no account should the peritoneal cavity be washed out.—Dr. Honeyburne said he was glad to hear that Mr. Phillips, although a surgeon, was yet so conservative in his ideas. He differed from him, however, in his method of treatment. The main question in any case was: How much was the peritoneum involved? And the main point in the treatment was to keep the inflammation of the simple adhesive variety. This was to be done by absolute rest for the inflamed part and not only should no food of any sort be given but the bowel must not be disturbed by enemata or any other method of evacuation When diagnosed morphine should be given in full doses and the patient kept under morphine until there was no more pain or tenderness *Operation was never required except* in the gangrenous cases when he quite agreed with Mr Phillips that *immediate* operation was the only chance Operation should be performed in the quiescent period by all means but not during the attack His own cases (250 in all) gave a *mortality of 2 per cent*—Mr Horrocks thought that in the early cases the application of leeches was distinctly useful He believed in calomel for the bowels Given in one quarter to half a grain doses every two hours and followed by an enema, he had seen excellent results from it Tympanites was relieved and the patient rendered much more comfortable In the second type where *the swelling was to the inner side of the iliac fossa*, careful watching was required, as the abscess was very liable to track down into the pelvis He quite agreed with Mr Phillips s incision in the gangrenous cases In those cases where appendicitis was closely connected with colitis the results were not good —Dr Rabagliati said that in his experience if left alone the abscess frequently *burst into the bowel and nature completed the cure* He wished there were some me [illegible] enous cases early so as to avert [illegible] they caused —Dr Wood said [illegible] with a swelling were always safe to leave and quoted instances from his own practice to back his opinion In these cases he thought the incision should be over the most prominent part of *the swelli* [illegible] very difficult—e g [illegible] logical thing was [illegible] In this way no harm was done to the cases classed as safe to leave, and the gangrenous cases would be taken early and given the best chance of life —Dr H J Campbell thought it was logical to operate as soon as diagnosed but not practicable He therefore advised treatment on the same lines as Dr Honeyburne but would give the morphine per rectum —Mr Phillips replied

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY —A meeting of this society was held at Manchester on April 23rd Dr J W Martin (Sheffield) the President being in the chair —A vote of condolence to the family of the late Mr Simeon Snell proposed by Dr D Lloyd Roberts and seconded by Mr R Favell was passed —Dr H Briggs (Liverpool) showed two specimens of Hæmatometra removed by the Abdominal Route In each case the retention of menstrual fluid was due to congenital atresia of the cervix The patients were unmarried women, aged 32 and 35 years respectively Microscopical examination of the uterine wall showed a great *excess of fibrous* tissue and an absence of glands in the endometrium —Dr A Donald (Manchester) read notes of a case of Bilateral Abscess of the Uterine Appendages occurring during Pregnancy Three weeks after spontaneous premature labour each abscess was drained extraperitoneally through an anterior colpotomy incision A marked improvement in the patient s condition immediately followed but two weeks later *symptoms of acute peritonitis appeared* On opening the abdomen a ruptured pyosalpinx was found and removed Since then the patient had made a steady recovery —Dr J H Willett (Liverpool) showed the specimen from a case of Cæsarean Section and Abdominal Hysterectomy for Carcinoma of the Cervix complicating a seven and a half months pregnancy The patient was a multipara aged 34 years Irregular hæmorrhage commenced at the end of the first month later the discharge became offensive The vagina was divided between clamps but no attempt was made to excise the pelvic connective tissue No enlarged glands were found The mother made a good recovery, but the infant died when four weeks old —Dr W Blair Bell (Liverpool) read the notes of a case of Acute Puerperal Sepsis with Thrombosis of the Ovarian Veins, which [illegible] h occurred 16 [illegible] ery complete [illegible] opinion that when septic thrombosis of the ovarian veins was diagnosed immediate ligation and excision of the ovarian veins should be practised —The President Dr Briggs Dr Donald, and Dr A W W Lea (Manchester) argued that operation in such cases was useless —Dr *Donald* read a note on the Use of Gauze Drainage in Certain Cases of Puerperal Sapræmia, in which retention of lochia occurs from sharp anteflexion of the uterus with sagging of the body Toxæmic symptoms, due to decomposition, generally arose on the eighth or ninth day or soon after Immediate improvement followed intrauterine *douching, but renewal of the retention and of the* symptoms was likely to occur This was best avoided by the use of a gauze drain

LIVERPOOL MEDICAL INSTITUTION —A meeting of this society was held on April 22nd, Mr T H Bickerton the President, being in the chair —Mr A A Bradburne read a note on Amblyopia Exanopsia He dealt with that type found in conjunction with high degrees of refractive error He considered the cause to be a cerebral defect and based his treatment on that theory He quoted one of his cases a boy aged 11 years, who had in six months special training *recovered vision from $\frac{6}{60}$ to $\frac{6}{6}$ or Jaeger 1 He considered that* want of success in treatment was due to the defect being a complex one, the visual act depending on several centres —Mr A Nimmo Walker advocated the whole time covering of the non squinting eye until the vision of the squinting eye became equal to that of the other This was possible in the majority of cases if taken early enough —Mr R O Dun read a note on Intussusception based on an analysis of 73 cases He argued in favour of irrigation followed if necessary, by immediate section Ether was always the anæsthetic used —Dr Hubert Armstrong discussed the paper —Dr F Wilson read a paper on the Serum Diagnosis of Syphilis Wassermann s and Noguchi s tests were described and their value was contrasted Using Wassermann s test 23 *results were positive out of 30 cases Of 20 controls 3 were* positive but in none of these could the possibility of syphilis be excluded With Noguchi's test 40 out of 52 cases were positive, also 3 out of 25 controls Out of 30 cases submitted to both tests 22 were positive with both, 4 were negative with both Two were positive with Wassermann s test [illegible] ative with [illegible] The opin [illegible] the more complicated of the two was the more trustworthy —Dr Ernest E Glynn referred to the fact that some cases of cancer growth give the Wassermann reaction and that guinea pigs' heart was as suitable an antigen as syphilitic liver The serum principle had been successfully employed in the diagnosis of typhoid fever and gonorrhœa

CHELSEA CLINICAL SOCIETY —A meeting of this society was held on April 20th, Mr A F Penny the President being in the chair —Dr J Blumfeld read a paper on the Nature of Sickness after Anæsthesia and the Best Means of Preventing or Treating It After a short summary of the physiological aspects of vomiting the different ways in which anæsthetic vomiting might be supposed to be caused were discussed and the influence of an effect upon the central nervous system was shown to be the most probable The characteristics of different types of patients and their immunity from or susceptibility to vomiting were considered and the influence of various drugs of saline enemata and injections of position after operation and of various kinds of operation were *discussed in their relation to the question* of sickness In the discussion that followed the President and a large number of the members present took part and many questions were asked to all of which Dr Blumfeld very *fully replied*

MANCHESTER PATHOLOGICAL SOCIETY —A meeting of this society was held on April 21st Dr W Milligan the President being in the chair —The President introduced a discussion upon the Pathology of Intracranial Suppuration limiting his remarks to suppuration of otitic origin The various micro and macroscopical pathways of infection were described and lantern slides of pathological specimens were shown upon the screen The pathology of extradural cerebral and cerebellar abscess was *discussed* in detail special reference being made to the organisms most usually found Purulent and serous meningitis was also fully described and reference was made to the occurrence of posterior basic meningitis in children as a sequel to suppurative labyrinthitis The pathology of sinus thrombosis and of perisinusal abscess was also discussed Various pathological preparations and photographs were shown

Reviews and Notices of Books.

The Principles of Anthropology and Sociology in their Relations to Criminal Procedure. By MAURICE PARMELEE, M.A. New York: The Macmillan Company. 1908. Pp. 410. Price 5s. net.

THIS volume, which belongs to the excellent series of handbooks published by the Macmillan Company under the general title of "The Citizen's Library of Economics, Politics, and Sociology," presents in a very interesting and lucid form the argument for the scientific revision of the methods of criminal procedure. Though dealt with in some detail in Ferri's "Sociologia Criminale" and in the works of Garofalo and other writers of the Italian school, this particular aspect of the problem of criminality has hitherto received less attention, at all events in the English-speaking countries, than its importance demands, so that Mr. Parmelee's study of the question, even if all his conclusions cannot be accepted, has the decided merit—not too common in these days of the making of many books—that it supplies a real want.

As is implied in its title, the work is written frankly from the standpoint of the positivist school of criminology; and it may be remarked that the author's enthusiasm for the principles of this school sometimes leaves him open to the reproach of accepting its theories in a rather uncritical spirit. This is most evident in the earlier chapters which deal with the biological factors in crime. In these chapters the author seems to go the length of taking Lombroso's doctrines as the basis for the whole thesis which he seeks to establish in his essay; and in this way he does himself a considerable injustice, for the critical discussion of the methods of legal procedure, which constitutes the really valuable part of the volume, is in fact quite independent of the precarious theory of "innate criminality." From internal evidence it would appear that the author is a lawyer, and it is probable that his lack of first-hand acquaintance with biological knowledge is mainly responsible for this over-zealous attitude which has led him to make such rash assertions as that criminal anthropologists "have distinguished between the different anthropological types of criminals" (p. 47). All this, however, is in reality much less material to his argument than the author seems to suggest, and the chief reason, indeed, for pointing it out here is to warn the reader against judging the book by what is its weakest and least important part.

The relation of the criminal to society is next discussed, and the basis of penal responsibility is investigated, the conclusion reached being that, whatever be the phases of its evolution in history, responsibility is now related solely to the principle of social defence. From this point of view criminal procedure is seen to be one of the measures of social defence and to be continuous with the others. It is the process by means of which the class called criminal is separated from the rest of society. Its fitness for this purpose, therefore, will depend on its adaptation to the characteristics of this class, so that, like the methods of penal discipline, it presupposes a knowledge of the biological and bio-social factors that have produced the given criminal act. The principle of individualisation is accordingly seen to apply as much to procedure as to punishment, just as, in medicine, diagnosis is related to treatment. This idea is further developed in two chapters discussing the individualisation of punishment and the principles of the criminal law. The next chapter deals with the forms of criminal procedure, of which two fundamental types are recognised—viz., the procedure of accusation, best exemplified in the English system, and the procedure of investigation, on which the French and most of the continental systems are based. In the succeeding chapters each of the different stages in these two forms of procedure is discussed in detail, and its merits and defects are considered from the point of view of psychological soundness. This critical review brings out very clearly the inadequacy of many of the existing methods of legal investigation, more especially as regards such points as the credibility of witnesses, the functions of the jury, and the selection of judges. In this connexion the admirable researches of Hans Gross on the psychology of evidence might have been more fully discussed.

In conclusion, the author summarises the modifications which he would desiderate in criminal procedure to bring it into accord with the modern scientific spirit. He advocates a much freer use of expert testimony, including the utilisation of the data of experimental psychology for the examination of witnesses. He would have judges better qualified than they are to estimate the force of such testimony by training them in psychology, normal and pathological, and in the other branches of knowledge which have to do with a complete study of criminal man. Such a training would include a sufficient course of clinical instruction in the prison and the lunatic asylum. In lieu of the present system of paid counsel he suggests that the prosecution and the defence should be conducted by trained advocates employed by the State. From these advocates the criminal judges would naturally be selected. This substitution of the expert for the amateur would entail the entire separation of the criminal and the civil bench, the criminal judge becoming a specialist in his own line. In consequence of his specialised training it would also be possible to associate a judge equipped in this way with the whole system of penal treatment, by imposing on him the duty of periodically revising sentences, which, of course, under the conditions contemplated would be indeterminate in duration. Finally, these reforms would include the abolition of the jury, which is, the author thinks, an obvious anachronism.

This brief summary of its contents will give some idea of the scope of Mr. Parmelee's work. It is inevitably open to numerous criticisms of detail, but in its broad lines it may be accepted as a just and well-balanced statement of the ideas which are now becoming current amongst scientific students of legal institutions, and which have already found a footing in the official teaching in several foreign countries. These ideas have, so far, had but little vogue in England, where there is an almost absolute indifference to the sociological aspects of crime on the part of those engaged in administering the criminal law, and it is on this account very much to be desired that so good an exposition of them should meet with the attention which it merits. It may be particularly commended as advocating in the practice of law the same principles which have contributed so powerfully to the progress of medicine.

Les Colloïdes en Biologie et en Thérapeutique. Le Mercure Colloïdal Electrique Par G. STODEL, Préparateur au Laboratoire de Physiologie de la Sorbonne. Paris: Vigot Frères. 1908. Pp. 282. Price 6 francs.

THIS book is divided into two parts. The first deals with recent work on the subject of colloids in general, or, more correctly speaking, as the author points out, with substances in a colloidal state, since many bodies are capable of existing in both crystalloid and colloid forms. This account is very interesting, calling attention, as it does, to a branch of physical chemistry which lies rather outside the range of most students and which seems to have been somewhat neglected in consequence until recent years. We learn that the colloid state consists in a condition of suspension in the form of excessively minute particles differing from the condition of solution in which a crystalloid body exists in a state of ionisation. By means of the ultra-microscope the particles in some colloid solutions can be seen; others, however, are too fine for even this instrument to reveal. These minute particles necessarily present an enormous area of surface in relation to their bulk, and the resulting surface-tension along with the electrical charges inherent in the particles accounts for many of the properties of colloids. As all living cells and membranes, as well as the fluids present in living organisms, are in a colloid state, it is clear that a knowledge of the phenomena presented by colloids in general is of importance to the student of biology. The author discusses the nature of diastases and of the different classes of immune bodies in this connexion. Some metals and metallic salts are capable of taking on a colloid form. The use of colloid silver in therapeutics is not new. The author has succeeded in preparing mercury in a colloid form and has tried it as a remedy for syphilitic affections. The record of his work here given, constituting the second part of the book, is interesting, but further research is necessary before we can admit the superiority of the new remedy over the usual preparations of mercury.

The book is clearly written and serves as a useful introduction to a study of the properties of colloids; as such we commend it—as a stimulant to further study of the subject rather than a complete account of the phenomena. It contains references to much recent original work. The print and paper are good, but there are a considerable number of typographical errors.

Hæmatological Atlas, with a Description of the Technic of Blood Examination. By Priv. Doz. Dr. KARL SCHLEIP, Scientific Assistant in the Medical Clinic, University of Freiburg-i.-B. English Adaptation of Text by FREDERIC E. SONDERN, M.D., Professor of Clinical Pathology, New York Post-Graduate Medical School and Hospital, Director of Clinical Laboratory, New York Lying-in Hospital. With 71 coloured illustrations. London: Rebman, Limited. 1908. Pp. 256. Price 42*s.* net.

THE plates of this atlas represent with remarkable fidelity and accuracy the appearances presented by the blood corpuscles in health and disease. The various forms of abnormal corpuscles are clearly depicted, and explanatory descriptions are afforded of each plate. With the exception of a few plates, delineating the appearance of unstained specimens, the illustrations represent the characters revealed by means of the Leishman modification of the Romanowsky method of staining. Uniform magnifications of 330 and 750 have been used. The plates are printed in colour on thick paper and are for the most part circular, with black margins, and represent very accurately the appearance of an ordinary field of the microscope. The plates are affixed to the pages of the book. The explanatory letterpress is printed in large type and the whole book is admirably produced. General instructions are given for obtaining blood for examination and for the preparation and staining of the dried films. The methods for examining a hanging drop of fresh blood and for enumeration of the corpuscles are also described.

The first plate is diagrammatic and is intended to illustrate the development of white and red corpuscles. All human blood cells are traced back to a parent form, and the plate is shown practically in the form of a developmental tree. It is, however, hypothetical and open to criticism in some of its details. The red corpuscle is traced back through the erythroblasts to a large mononuclear basophilic cell represented as one of the primary derivatives of the parent cell. From the derivative the transitional forms, the lymphocyte, the eosinophile, and the basophile cells are also derived, and some of the neutrophiles. Türk's irritation form is figured as a derivative of the lymphocyte. Plates II. and III. represent the general appearances of normal blood; Plates IV. to VII. depict the various forms of human white corpuscles. Very little distinction is made between the large and small lymphocytes; the transitional forms are carefully described and their special characters indicated. Türk's irritation forms are also represented; they occur in leucocytoses and in inflammatory processes. They resemble the large leucocytes and have a large nucleus poor in chromatin. Amitotic nuclear division figures are not uncommon. Other degenerative forms of leucocytes are also figured, including those showing the presence of vascular degeneration. The various leucocytoses, polymorphonuclear and eosinophilic, and lymphocytosis are represented in Plates VIII. to XIII. The appearance of numerous neutrophilic myelocytes in the blood in diphtheria is figured and their occurrence in that disease is described as an unfavourable prognostic indication. Plate XIV. is devoted to the erythrocytes, nucleated red corpuscles, and blood platelets.

The various anæmias are depicted in Plates XV. to XXII. Polychromatophilia and basophile granulation of the erythrocytes are well shown and the conditions under which they occur are enumerated. The features characteristic of various secondary anæmias, including that form due to hereditary syphilis, are also illustrated. Plates are given showing the appearances of the blood in the primary anæmias, chlorosis, and pernicious anæmia.

The various forms of leukæmia form the subject of Plates XXIII. to XXXVII., and the different forms of corpuscle are carefully differentiated and liberally illustrated. Useful outline diagrams are given of the more important specimens reproduced and the names of the various corpuscles are clearly indicated. The blood changes associated with tumours of the bone marrow are represented in Plates XXXVIII. to XL., including carcinoma, sarcoma, and leukosarcomatoses, the latter being a condition described by Sternberg. The concluding section, consisting of Plates XLI. to XLV., is devoted to blood parasites. Various forms of the malarial organism are shown and one plate of the human trypanosome.

The atlas may be taken to present very well the ordinary changes seen in the blood in certain diseases and should be of value to those practitioners who are interested in the hæmatological investigation of their cases and are unable to work out their specimens in a laboratory, for it should enable them to identify the various types of corpuscles. In the preface it is claimed that "an accurate picture of characteristic changes is often better than a detailed description or an imperfect specimen." The atlas should certainly enable the practitioner to interpret the results he obtains with films from actual cases.

The Cell as the Unit of Life, and other Lectures. (An Introduction to Biology.) By the late ALLAN MACFADYEN, M.D., B Sc. Edin. Edited by R. TANNER HEWLETT, M.D. Lond., F.R C.P. Lond., D P.H. London: J. and A. Churchill. 1908. Pp. xvi.–381. Price 7*s.* 6*d.* net.

THE courses of lectures included in this volume were delivered by Dr. Macfadyen at the Royal Institution, London, during his tenure of the office of Fullerian Professor of Physiology from 1899 to 1902. Dr. Hewlett has done his work as editor excellently, but in his short introductory biographical notice of Dr. Macfadyen he has been misinformed as to the names of one at least of Dr. Macfadyen's teachers in Edinburgh—viz., "Sir Croom Halliday." Dr. Macfadyen did excellent work in the domain of cell life and bacteriology, and all too soon, at the early age of 46 years, he fell a victim to his zeal in research, accidentally infecting himself with typhoid and Mediterranean fevers, from which he died in March, 1907.

The following statement shows the scope of these lectures. "The Cell as the Unit of Life" is dealt with in five lectures (March and February, 1899); "Cellular Physiology" in six lectures (1901); to "Recent Methods and Results in Biological Inquiry" (1902) are allotted three; and to "Toxins and Antitoxins" (April, 1899) four lectures. A Friday evening lecture, "On the Effects of Physical Agents in Bacterial Life" (1900) completes an interesting series. The lectures give a clear, straightforward, very readable account of cell life, and form an admirable introduction to the study of biological problems associated with the cell in all its aspects as a living and productive organism in its morphological, structural, and chemical relations. Necessarily there is a certain amount of overlapping where the theme is cellular from start to finish, and where the simplicity of thought and diction are very marked it must be recollected that the lectures were no doubt well adapted for the audience at the Royal Institution. In the first course protoplasm and all that belongs to it is dealt with, including cell life in general; a short account of the ferments is given, and the responses of protoplasm to stimuli are explained. The second course deals in a general and interesting manner with enzymes, and fermentations and their importance both in the arts and in science, as well as their relations to the germ theory of disease. The course on methods of biological inquiry is a short one, and treats of, amongst other subjects, nitrification, phosphorescence, toxins, agglutination, and life at low temperatures. As bacteria retain their life at the temperature of liquid air and become extremely brittle this led the author to triturate them at this low temperature, and in this way a pure cell plasma without an admixture of sand and Kieselguhr was obtained. It was shown that the typhoid bacillus contains within itself a toxin and in this way devitalised intracellular toxins were obtained from bacteria. As the lectures on toxins were delivered in 1899 the editor has added a few notes to the methods outlined in the lectures.

The whole is pleasantly written and gives an admirable summary of cell life which could be understood by a lay audience such as that which attends the discourses of the Fullerian professor for the time being at the Royal Institution. There are appended a glossary and a list of Dr. Macfadyen's publications.

The Struggle against Tuberculosis in Sweden. Edited by STURE CARLSSON, M.D. With illustrations. Issued by the Swedish Government. Stockholm: Central-tryckeriet. 1908. Pp. 200.

AMONG the progressive nations of Europe seeking to combat tuberculosis with scientific precision Sweden occupies a foremost place. Something of Swedish methods and measures have already been detailed in this journal.[1] We therefore gladly draw attention to the admirable collection of studies prepared by a representative Swedish committee and dedicated to the International Tuberculosis Congress recently held in Washington. The work is one of which Sweden may well be proud. It should certainly be carefully studied by those in this and other countries who are desirous of seeing anti-tuberculosis work organised on rational lines. It is a record of medico-sociological experience and scientific experiment rich in suggestive value and amply testifying to the benefit of coördination and coöperation of medical, social, economic, and humanitarian effort and service. Dr. Bertil Buhre, the able secretary of the Swedish National Anti-Tuberculosis Association, describes the far-reaching influence and benefits wrought by this truly national body. Other contributions of great value follow, detailing the results of anti-tuberculosis work in various parts of Sweden. Dr. John Tillman of the Österasen Sanatorium, contributes a thoroughly common-sense essay on Sanatorium Treatment at Home; Mrs. T. Gelhaar describes the charity stamps which have proved so popular and successful a means for raising revenue; Dr. Emil Wadstein of the Hessleby Sanatorium writes of King Oscar the Second's Jubilee Fund and its service in establishing and administering public sanatoriums for Sweden's consumptives; Dr. C. E. Waller furnishes notes on physical methods of diagnosis; Dr. Sture Carlsson, of St. Göran's Hospital at Stockholm, deals with the various institutions existing for the treatment of tuberculosis in Sweden; and there are other articles of clinical and pathological interest. We have, however, furnished sufficient proof to substantiate our opinion as to the value of this notable volume. No serious student of the tuberculosis problem can afford to be neglectful of such a record of Scandinavian thought and enterprise. The volume is handsome in appearance, well illustrated, excellently printed, and the English, although occasionally quaintly expressed, is generally clear and attractive. All concerned in the production of the work are to be congratulated.

La Pratique des Maladies des Enfants (Diagnostic et Thérapeutique). Secrétaire de Rédaction: R. CRUCHET. Fasc. I. Introduction à la Médecine des Enfants: Hygiène, Allaitement, Croissance, Puberté, Maladies du Nouveau-né. Par A.-B. MARFAN (Paris), J. ANDÉRODIAS (Bordeaux), et RENÉ CRUCHET (Bordeaux). Paris: J. B Baillière et Fils. 1909. Pp. 476. Price 10 francs.

THIS is the first fasciculus of a comprehensive work on diseases of children, to which no less than 24 authorities from the different French schools are to contribute, the general editorship being in the hands of Professor Cruchet of Bordeaux. The editor points out the increasing importance now attached to care for the health of the *young* and notes that the *problems most urgently calling for treatment* differ somewhat in different countries. Thus in France *the* fall in the birth-rate is most disquieting, in England the mortality which occurs in early infancy, and in Germany the incidence of nervous affections and even of suicide among children of a rather later age. He claims that the study of children's diseases is a specially French branch of medicine, and if the other volumes of this work maintain the standard set in the first we shall be inclined to admit the truth of the claim. The articles here set before us are most interesting and stimulating. The first 100 pages are occupied by a section written by Professor Marfan, dealing with general considerations on the peculiarities of the disorders of children, and embracing such points as the bacteriology of the infant's alimentary canal, the effects of boiling on milk, and the causation of some of the special forms of wasting or athrepsia met with in infants. The second section, occupying the greater part of the volume, is by Professor Andérodias, and is devoted to the maladies of the new-born child, malformations and obstetrical paralyses, hæmorrhagic conditions and infections, and above all the detailed consideration of artificial feeding. A short chapter on the disorders of later childhood by Professor Cruchet is notable for its advice as to the moral training of children so far as their desire for information on sexual matters is concerned.

Different countries are distinguished by different points of view in matters of science no less than in literary or moral spheres, and it is most useful for all physicians to endeavour to correct any onesidedness in their views by studying those of their colleagues in other parts of the world. For this reason especially, no less than for its general excellence, we cordially recommend the study of this book to all who are interested in the diseases of children. It is clearly and *pleasantly written by men who are experts in their subjects,* and should constitute an authoritative text-book of modern French practice in this department.

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[1] THE LANCET, July 18th, 1908, p. 189.

Die Neurologie des Auges. By Dr. H. WILBRAND, Ophthalmic Surgeon and Dr. A. SAENGER, Neurologist in St. George's [illegible] e Path- [illegible] 1909. Pp. 463. Price 18 marks.

Qu'allaient-ils faire dans cette galère? Wilbrand and Saenger's "Neurology of the Eye" continues to pursue its long and tortuous path, but the goal seems as far off as ever. After bulky volumes devoted to the neural pathology of the lids, lacrymal apparatus, and cornea we were plunged into a long disquisition on the anatomy and physiology of the optic paths and centres, in which the authors considered it their duty to include a comprehensive account of what is usually known as physiological optics. "*Revenons à nos moutons!*" said the authors, this lengthy excursion into pure physiology over, so they gave us 600 pages on the general diagnosis and symptomatology of defects of vision. Alas, their pesky conscience seems to have troubled them again. The retina is part of the nervous system; therefore, every abnormal retinal condition belongs to the neurology of the eye, so they make a valiant plunge into pure ophthalmology. "It may well seem surprising to many," they say, "that we should have devoted so much space to the pathology of the retina." We agree. But here it is, and on the whole it has been done quite well, though not so well as the purely neurological parts. They are more at home with their sheep than with their goats. It is, perhaps, sufficient to say that the half volume (463 pages) deals with nearly all the retinal disorders which are usually treated in an ordinary text-book of ophthalmology. We prefer to confine our criticism to the one definitely neurological section, one of 20 pages on amaurotic family idiocy. It betrays the tendency which has been shown before by others to obscure this peculiarly characteristic disease by including under the same designation other conditions which bear only a feeble resemblance to it. Thus, undue prominence is given to Vogt's papers on the so-called juvenile form of amaurotic family idiocy, which really belongs to an entirely different class. The bibliography given of the disease is by no means exhaustive and is vitiated in the same manner by the inclusion of cases having only an indirect bearing upon the subject. Wilbrand and Saenger's "Neurology of the Eye" is a most valuable work, but we would urge the authors to confine themselves more accurately to pure neurology and to venture into the domains of physiology and ophthalmology only in so far as is essential for the thorough elucidation of their special subject.

LIBRARY TABLE.

Modern Methods of Sewage Disposal. By W. H. TRENTHAM and J. SAUNDERS. London: The Sanitary Publishing Company. 1909. Pp. 60. Price 2*s.* 6*d.* net.—This is a simply written little book, intended primarily for the use of members of local authorities and their officials. The authors state that they have had 20 years' experience in the design, construction, and practical management of sewage works, and they deal with such matters as sewer construction, the various methods of sewage purification, and finally they have a chapter on "The Ideal Method of Treating Sewage." Their own scheme, which they allow falls short of the ideal, which at present is impossible, is described. House refuse and the screenings of the sewage are dealt with in a destructor which raises steam which again is converted into electrical energy. The sewage proper is dealt with in aerobic slate beds and filter beds. The book, of course, does not go deeply into the subject but as an *introduction to the study of a most important part of public* health it will be found useful.

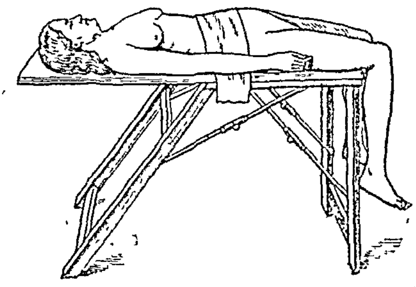
JOURNALS AND MAGAZINES.

The Quarterly Journal of Medicine. Edited by WILLIAM OSLER, J. ROSE BRADFORD, A. E. GARROD, R. HUTCHISON, H. D. ROLLESTON, and W. HALE WHITE. Vol. II. No. 7. April, 1909. Oxford: At the Clarendon Press. Subscription price, 25*s.* per annum. Single numbers 8*s.* 6*d.* each.—This number contains the following papers: 1. Bronchiolectasis in Children, with reference to the Condition known as Honeycomb Lung, from a clinical standpoint, by Ernest Leach Five cases are described and the clinical features are analysed. The morbid anatomy and causation of the condition are also discussed. 2. Vaso-dilators in High Blood Pressure, by Edwin Matthew. By means of hæmomanometric observations certain conclusions are drawn as to the individual and relative action of *nitrites* and *organic nitrates,* and various recommendations are given as to the dosage of the therapeutic nitrites. 3. Further Researches on the Etiology of Endemic Goitre, by Robert McCarrison. Evidence is offered of the experimental production of goitre by the administration of suspended matter filtered off from waters known to produce goitre in Gilgit. Boiling the material deprives it of its power of inducing goitre. The incubation period of experimentally produced goitre is from 13 to 15 days, and the disease can be cured by the administration of internal antiseptics. 4. Infective Endocarditis, by Thomas J. Horder, with an Analysis of 150 Cases and with Special Reference to the Chronic Form of the Disease. This paper contains a valuable account of the various forms of infective endocarditis, and special attention is given to the bacteriology and to the treatment. 5. Acidosis: a Critical Review, by Edmund I. Spriggs, giving an interesting summary of the conditions leading to acidosis and of its occurrence in association with diabetes and certain toxæmic states occurring clinically.

New Inventions.

A NEW OPERATING TABLE.

A new portal [illegible] table made by Messrs. Allen and Hanburys, [illegible] to the specificatior [illegible] ow. It has many advantages and has been found by Dr. Berkeley to be extremely useful. It can be opened and fixed in position or folded up again in less than one minute, and it has

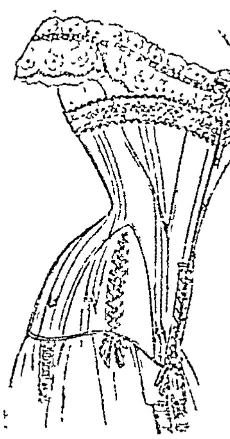


been tested to take patients weighing up to 20 stones. The table is made of oak, the measurements being: length, 48 inches; width, 21 inches; height, 32 inches. The weight is 31 pounds. *It fulfils perfectly the objects for which it* was designed and will be found equally useful for operating either in the Trendelenburg or the lithotomy positions.

Unlike many operation tables on the market which profess to give the correct Trendelenburg position and fail to do so, this table, Dr. Berkeley considers, is in this respect perfect, and the mechanism by means of which the top is raised and lowered is very simple and works very easily. On being practically tested this table was found to answer the purpose for which it was constructed, but we suggest that when used care should be taken to interpose a well-folded blanket between the edge of the table and the popliteal space.

A HYGIENIC CORSET.

We are often pressed to express an opinion upon some departure from the usual forms of wearing apparel, but seldom find ourselves able to say much in favour of the modification, which even though recommended to us by members of the medical profession fails commonly in fulfilling the claims made for it. A combined corset and surgical belt, however, which has been submitted recently for our inspection by Mrs. Morison of 26, South Molton-street, London, W., deserves to be brought to the notice of our readers. It provides a comfortable and adequate appliance for many invalids and for others who, while hardly invalids, are recommended some form of surgical belt. By a skilful method of cutting the corset and belt all in one piece the advantages of a surgical belt are secured and a suitable apparatus is furnished applicable in cases requiring abdominal support. This combined corset and surgical belt is so constructed, the inventor claims, that it not only gives abdominal support but leaves the ribs and diaphragm free from compression, so that respiration is not interfered with. We made trial of the corset with particular attention to this matter, and in our view the breathing is not incommoded by any pressure which the lower or "belt" part of the appliance may exercise on the abdominal planes. The corset is, of course, "cut" smaller in the groin than in the abdomen, so that when the front and sides are laced an upward pressure is given to the abdominal contents and the wearer is able to assume the erect posture with greater comfort and to take valuable exercise much earlier after an operation. An inspection of the accompanying illustration will show how this corset is well adapted to replace the surgical belt in many common conditions. The technical name of the material of which the corset is made is "tricot," which we should describe as a sort of clinging stockingette possessing great elasticity without, however, containing elastic. This corset has been successfully employed for the relief of troublesome symptoms during and after pregnancy and has been found efficacious in cases of hernia, moveable kidney, and weakness of the spine. In the treatment of pendulous belly the advantages of this corset are self-evident, and by suitable alterations it can be made applicable for other conditions.



Combined corset and surgical belt.

BRITISH MEDICAL BENEVOLENT FUND.

At the April meeting of the committee 23 cases were considered and grants amounting to £204 5*s*. made to 20 of the applicants, two cases being passed over as unsuitable for help and one postponed for further inquiries. Appended is an abstract of the cases relieved:—

M.R.C.S., L.R.C.P., aged 31 years. Has been incapacitated for some time by ill-health and exhausted all his resources; is now better and able to undertake a little light work, but requires immediate help to purchase a few necessary articles of clothing, &c. Voted £2 5*s*.

Widow, aged 38 years, of M.B., Ch.B. Glasg. Lost her husband soon after marriage and is at present dependent on relations who can ill afford to help. Proposes to train as a maternity nurse and friends promise to pay part of the expenses. Voted £5 conditionally upon the balance of the money being found.

Widow, aged 60 years, of M.R.C.S. No income; endeavours to support herself by letting lodgings; children only able to give very slight help. Relieved three times, £34. Voted £18.

Widow, aged 61 years, of M.R.C.S. Quite unprovided for at recent death of husband, whose means were exhausted by a two years' illness. No children. Voted £12.

[illegible] M.R.C.S. No means; has been given a [illegible] return for services, but fears she will soon [illegible]

[illegible] late M.R.C.S. No income; used to act as housekeeper to a brother, and after his death qualified as a maternity nurse, but now obtains so few cases that she is obliged to apply for help. Voted £12.

Widow, aged 56 years, of L.R.C.P., L.R.C.S. Edin. No income, and since husband's death 20 years ago has supported herself as children's nurse, &c., but has recently been incapacitated by a serious illness which has exhausted her small savings. Voted £12.

M.R.C.S., aged 70 years. Until a few months ago was in practice but has recently undergone an operation for gangrene and is now quite incapacitated. Slight help from children. Voted £18.

Daughter, aged 59 years, of late M.R.C.S. Allowed 5*s*. a week by friends and earns about the same amount by needlework. Relieved twice, £30. Voted £12.

Daughter, aged 59 years, of late M.R.C.S. Is given a home in return for services but requires help for dress and other unavoidable expenses. Health very indifferent. Relieved seven times, £108. Voted £12.

Daughter, aged 48 years, of late M.R.C S. Is a confirmed epileptic and consequently unable to follow any occupation. Dependent on a brother-in-law who can ill afford to help and receives £10 a year from the National Hospital for the Paralysed and Epileptic. Relieved twice, £22. Voted £12.

Daughter, aged 43 years, of late M.R.C.S. For many years past has been obliged to nurse her recently deceased mother, an annuitant of this Fund. Hopes now to support herself by letting rooms, but requires a little help meanwhile. Relieved once, £5. Voted £5.

Daughter, aged 66 years, of late M.R.C.S. [illegible] teaching for 43 years, but is now unable to d[illegible] and sight failing; no means; earns a few [illegible] knitting. Relieved once, £12. Voted £12.

Widow, aged 62 years, of L.F.P.S. Glasg. Only income £10 a year from a charity. No children. Lets rooms, but has great difficulty in obtaining lodgers, and is in very bad health. Relieved six times, £60. Voted £10.

Daughter, aged 60 years, of late M.D. Aberd. Has given music lessons for nearly 40 years, but finds increasing difficulty in getting pupils, and is in a very feeble state of health. Relieved twice, £20. Voted £10.

Widow, aged 49 years, of L.R.C.P., L.R.C.S. Edin. No income, dependent on two sailor sons, both at present out of work. Relieved five times, £51. Voted £12.

Widow, aged 61 years, of M.R.C.S. Eng. No income, slight help from friends; a son sends a few shillings occasionally. Is quite incapacitated by permanent ill-health. Relieved three times, £36. Voted £12.

Daughter, aged 53 years, of late M.R.C.S. Is unable to earn a living and dependent on three sisters who have to support themselves. Voted £5.

Daughter, aged 25 years, of late M.R.C.S. Health quite broke down after nursing her mother through a long illness ending in death, and for some months past has been an inmate of different institutions. Relieved once, £6. Voted £6.

Widow, aged 66 years, of L.R.C.P. Lond. No income; unprovided for at husband's death about 20 years ago and has supported herself by a boarding house, but now finds it impossible to make both ends meet. Relieved three times, £36. Voted £12.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 15, Wimpole-street, London, W.

Queen's College, Belfast.—The following prizes for the session 1908–09 were awarded at the class examinations in medicine recently held:—Zoology: J. B. Lyle, N. Beattie, W. S. Lynd, B.A., and T. Walker. Chemistry—Senior: W. G. Glendinning. Junior: J. M. Bell, A. K. Macbeth, and W. M'K. H. M'Cullagh. Practical chemistry—Senior: J. Greer. Junior: J. G. Wilkin, C. L. Gaussen, S. R. Armstrong, J. R. Henry, A. M. Glendinning, and J. Lyons. Chemical laboratory: W. G. Glendinning. Anatomy—Senior: F. Crooks and T. D. Graham. Junior: J. H. Beverland, S. R. Armstrong, and W. M'N. Walker. Practical anatomy—Senior: A. Hegarty, S. R. Armstrong, T. D. Graham, H. W. M'H. Wallace, C. L. Gaussen, F. Crooks, and J. R. Henry. First year: J. M'I. Gibson, W. M'N. Walker, and N. C. Graham. Physiology—Senior: R. J. M'Connell, F. Crooks, and M. J. M. Stewart. Junior: W. J. Hunter, B.A., S. R. Armstrong, J. H. Beverland, C. L. Gaussen, and W. M'N. Walker. Practical physiology—R. J. M'Connell and W. M. O'Farrell. Practical histology: J. H. Beverland, L. D. I. Graham, S. R. Armstrong, W. M'N. Walker, M. J. M. Stewart, J. Lyons, and J. J. H. Mitchell. Special prizes for histology demonstrations—J. H. Beverland, S. R. Armstrong, and H. W. M'H. Wallace. Materia medica—F. Crooks and J. A. Hutchinson. Medicine—R. A. Kerr and A. W. Connolly. Midwifery, gynæcology, and diseases of children—H. Black, C. J. Simpson, W. A. Anderson, R. A. Kerr, S. E. A. Acheson, and M. C. Irwin. Surgery: H. Black, S. E. A. Acheson, and B. M'Cullough, B.A. Ophthalmology and otology—H. Black and C. J. Simpson. Sanitary science—H. Black, C. J. Simpson, R. A. Kerr, and S. E. A. Acheson.

THE LANCET.

LONDON: SATURDAY, MAY 1, 1909.

Academic Distinctions.

HAMLET, it may be remembered, was at school at Wittenberg, but it may perhaps be assumed, even with a near approach to certainty, that the kingdom of Denmark possessed no University at the time, for if it had done so it is inconceivable that POLONIUS should have omitted to include the possession of a distinction thence derived among his various recommendations to the departing LAERTES, or that he should have failed to recognise to how great an extent the judgments of mankind are often dependent upon labels rather than upon the properties which these labels are supposed to indicate. We do not intend in the least degree to undervalue university distinctions; but we cannot close our eyes to the fact that universities are becoming numerous, and that the desire to possess an academic title, which has long been prevalent in the medical profession, may, perhaps, be in progress of being gratified at the expense of some diminution in the value of the result; not because the universities are willing to lower their standards, for the contrary obtains, but because the demands of medical education are not such as to be entirely satisfied by the curriculum which is naturally crowned with a degree. The fact of being a Doctor of Medicine or a Master of Surgery should undoubtedly carry with it a reasonable presumption that the bearer is a man exceptionally fitted to cope with medical or with surgical emergencies; but we very much doubt whether the facts will invariably support the presumption, or whether the tests to which candidates for medical or surgical academic honours are required to submit are always, or necessarily, of a kind to indicate real proficiency in the application of knowledge to the events of life or to the control of disease. The tests in question are usually such as to facilitate the display of what may be called "cleverness," quickness of faculty in the production of small change for the gold of knowledge; and the power of passing through them in a manner satisfactory to examiners, and so as to acquire the right to assume some distinctive label, although usually indicative to say the least of a certain degree of self-control and self sacrifice, is none the less to some extent dependent upon pecuniary means and upon perseverance, and is at best a very imperfect criterion of the special aptitudes, the resourcefulness, the courage, and the presence of mind which combine to render the practitioner who is endowed with them a tower of strength in the sick room, and which qualify him to exercise professional authority in the gravest emergencies. It is the business of the stage to "hold the mirror up to nature," and SHERIDAN KNOWLES was fully justified in rendering FONDLOVE'S proficiency in the *Ars Amatoria* of OVID but slenderly helpful to him in the conduct of his actual courtship of the lady of his affections. We believe that a power of answering difficult questions with facility and smoothness may sometimes be of as little value to a practitioner; and we fear that the growing tendency to confine great professional facilities, hospital appointments and the like, to candidates of high academic standing may not, in the long run, prove to be of unmixed advantage either to patients or to the profession.

The recent republication by Sir ALMROTH WRIGHT, under the title of "Studies in Immunisation," of the many papers in which he and his fellow workers have from time to time set forth their results in the direction of vaccine therapy, has afforded to the distinguished author an opportunity, of which he has not been slow to avail himself, of expressing his manifestly deep conviction that the contemporary medical practitioner, though he be graduate with honours, has not as a rule received a sufficient scientific training to render [illegible]s will be [illegible] present medical curriculum, and the length of time required by the average medical student before he can obtain a place upon the Medical Register. Sir ALMROTH WRIGHT tells us that in every other department of practical life, in shipping, for example, or in railways, a much higher standard of responsibility is enforced than in medicine, and he predicts that this laxity will not be indefinitely permitted. "The higher standard of responsibility, which is enforced everywhere else in civilised life, will also be enforced in medicine when we have shaped it into something more like a scientific profession." .... "So long as we as a profession go on hankering after the impossible, so long as we demand of every new therapeutic method that it shall, after the manner of a magic wand, achieve the marvellous with little labour, and that it shall give its best results even when it is applied in an absolutely blind empirical manner, so long will disillusion continue to dog the steps of medicine. There will be an end, once and for all, of such clamouring for the moon as soon as science shall have imported order and measure into our expectations." Many other passages of like kind are dispersed throughout the volume, and they all express a profound conviction of the utter inadequacy of the "rule of thumb" practice which many observers believe to be forced upon our students by the exigencies of the present education. If the existing degree of recognition of the value and importance of the work of the clinical laboratory as a guide to the daily work of the practitioner has scarcely at all led to a definite increase in the direction of endeavours to qualify him to undertake such work for himself, but rather to a passive acquiescence in its performance by a few persons as a sort of specialty, the professors of which must be consulted by practitioners when the latter require guidance which the generally familiar forms of investigation are inadequate to give, our scientific progress in the profession as a whole is not as great as it is believed to be. The tendency of such a course must manifestly be to place a gulf between the investigator and the practitioner, and to induce the latter to rest upon laboratory conclusions blindly, and as by rote, without any reasoned endeavour to bring them into continuous harmony with the facts observed at the bedside. We believe that never before were there so many practitioners striving to keep abreast with the rapidly developing knowledge of pathology and therapeutics; but the equipment of the modern medical man is a very elaborate one, and he who falls behind soon comes to occupy a hopeless position in the race. If it be admitted, as we think it must be, that the advances of modern medicine are to be looked for, during the next few years at least, chiefly in the direction of laboratory work, or of what is commonly understood by "research," we ought to expect in medical education as it is now conducted, even when academic honours are at its goal, a definite tendency towards the production of scientific men. The aim of the curriculum should be to qualify all members of the medical profession either to conduct laboratory investigations for themselves, or fully to appreciate their value when conducted by others. The question necessarily arises how this condition of things may be reached—how medical education may be so modified as better to prepare those who undergo it for the class of duties which, at no distant period, they will inevitably be expected to perform. The range of study is large and the time at the disposal of the student is all too short. The universities, old and new alike, are striving to give to science the practical attention which should ensure the production of scientific medical practitioners, and the same may be said of the various corporations, but even so it is difficult to see how the average man is to find time to master the chemical, physiological, or pathological investigations upon which, in the long run, we must rely for the cure of individual disease and for the preservation of the health of communities. Certainly we do not find that those who have achieved the greatest academic distinctions necessarily excel as practical men, while it must be admitted that those who do so may in some instances find it difficult to appear before the public in their right position, in consequence of not having obtained the label which carries conviction to the public mind. And all this may be read as showing that the medical curriculum is overloaded.

We have heard it suggested, and argued with considerable weight, that the medical profession is not likely to be completely qualified for the discharge of its duties until the scheme of its education is completely remodelled in a fashion analogous to that which obtains for the Royal Navy, and until the future medical man, like the future naval officer, is set apart from his very boyhood, and is compelled to devote himself continuously to studies bearing upon the work of his intended calling. The difficulties in the way are threefold, the first of them being that the public, as at present advised, are not disposed to reward skill in medicine with sufficient liberality to induce parents to incur heavy cost in qualifying their sons to attain it; the second being that the suggested isolation from students of other classes might tend to diminish capacity for dealing with the many personal and private questions with which the life of a medical practitioner becomes so inextricably blended. In the third place, who is to pay those who undertake this prolonged and costly scheme of education? We doubt whether any one of these objections is insuperable. It can scarcely be doubted that a definite improvement in the general character of medical work would be followed by a corresponding elevation of the standard of remuneration accorded to it; and we do not know that the naval officer is less conspicuous than his subordinate, the proverbially "handy man," in his power of mental adjustment to the conditions in which he is called upon to work. But we have to regard the idea, at any rate for the present, as visionary. All that we can yet hope for is the gradual lengthening of the statutory time of the medical curriculum, and the introduction of simplifying modifications into the examinational schemes, as partial remedies for the existing unsatisfactory conditions. In particular, any signs of effective union between the universities and the corporations will be of promise, as tending to place all qualified men on a more practical footing of equality, and so allowing the best of them to come to the front by the merits of their professional work.

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The Position of Plague in India as Illustrated at the Bombay Medical Congress.

IT is now 12½ years since plague first appeared in Bombay, and during this period it has caused approximately six and a half million deaths. So far, in 1909, the death-rate has been low, but too much stress must not be laid upon this, as the rises in mortality which have occurred from time to time during the long epidemic have had no distinct causes. The cynical might say that plague in India has not been without its advantages. Before its advent the Government of India were engaged in discussing what was considered to be one of the great problems of the future—viz., how to relieve India of a surplus population through emigration. That problem has certainly been solved in some districts. Medical science has also benefited indirectly as well as directly, for the vast plague mortality stirred public opinion, so that a Royal Commission was appointed, and to this we owe the birth of the many fine research laboratories which have come into existence recently, the work in which has been the subject matter of many most valuable papers and discussions at the Medical Congress recently held at Bombay. But there is, alas, another side to the matter. On the top of the colossal tragedy implied by these millions of deaths we have to remember that in certain districts there was swept away some of the finest recruiting stock for the Indian Army, while the persistence of the epidemic, and particularly the measures which have been taken in some places to arrest its devastations, have led to acute unrest in the native population. On every ground, humanitarian as well as political, we must all hope that the existing promises of permanent abatement will be fulfilled.

The contributors to the proceedings at the Bombay Congress,[1] to which we propose to refer especially, are for the most part experts employed either in research work in Government laboratories or in active plague prevention. The research done has been well carried out by devoted workers in India who have caught the true spirit of scientific research. The newly equipped laboratories which provided facilities for earnest work can, therefore, be intelligently used, and the country is benefiting by the great financial outlay in a corresponding manner. The result of this organised research is now unfolding a new state of affairs as regards plague etiology and prevention. The story is worth recapitulation as a chronicle of advancing knowledge. As is generally known, rats have been associated with plague from time immemorial. The ancient Egyptians figured them in their crude drawings and referred to them in their writings. In modern times the facts that rat mortality preceded outbreaks of plague in man and that there was a disappearance of rats after plague epidemics had worn themselves out were observed, but they were thought to be a coincidence until bacteriological investigation proved that rat mortality was due to the bacillus pestis. The rat was then perceived to be a probable source of the spread of infection and attempts were made to prove it, but not at first with success. Other sources of contagion were examined. Plague patients were said to spread the disease by contact and by their excreta; and it was argued that, as rats die from plague, their excreta, which foul human dwelling places, might aid to infect man; while rats, which will eat their own dead, might keep the infection up. Then, as was inevitable, the work of those who had shown that blood-sucking insects were often the causal agents of the spread of disease, carrying infection from animals to man, and *vice versâ*, attracted the notice of those working on the investigation of plague, and thus the hint was given that plague might possibly be propagated by some form of parasitic blood-sucking insect common to man and rats. In India vermin and parasites of all kinds, especially fleas, are very common; the lower classes of natives and their dwellings are always infested by them, and once attention had been directed to the possibility of some such insect as the flea being the medium of infection the rest followed. It has now been definitely proved that any species of flea common to rat and man is capable of propagating the disease, if it is not also the chief means of so doing. Major **GEORGE LAMB**, I.M.S., member of the Advisory Committee for Plague Investigation, in a paper read before the Bombay Medical Congress, has given a very complete *résumé* of the epidemiology of plague and comes to the following general conclusions, which he considers of the greatest importance from a prophylactic point of view (we quote his own words): "1. Bubonic plague in man is entirely dependent on the disease in the rat. 2. The infection is conveyed from rat to rat, and from rat to man, solely by means of the rat flea. 3. A case of bubonic plague in man is not in itself infectious. 4. Insanitary conditions have no relation to the occurrence of plague, except in so far as they favour infestation by rats. 5. Plague is usually conveyed from place to place by imported rat fleas which are carried by people in their persons or in their baggage. The human agent not infrequently himself escapes infection."

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[1] A special supplement to the *Indian Medical Gazette* for March contains a good précis of the proceedings of the Congress.

The general subject of the prophylaxis of plague in an infected country was treated at the Congress in a paper by Captain **W. GLEN LISTON**, I.M.S., of the Plague Research Laboratory at Parel. He also pointed out that plague was essentially a rat disease and compared its spread by animals to rabies and glanders. He dwelt on the means and methods best suited for rat extermination and the difficulties of the proceeding owing to the defects in native houses, the general want of a sanitary environment, and the abundance of food—grain and garbage—available for rats in places where natives sleep. Captain **LISTON** advocates the systematic setting of large numbers of rat traps in accordance with a well-organised plan of campaign, for he has noted that where the trapping of rats has failed the cause is due to lack of organisation, defective operations, and want of appreciation of the magnitude of the task by those engaged on the work. Plague is carried by infected rat fleas either on the person, in wearing apparel, bedding, or in merchandise, to rats and human beings elsewhere. Disinfection of all domestic and personal environment is therefore of the utmost importance, and the comparative success of stopping the spread of plague from India over sea must to a great extent be attributed to this precaution. Rat extermination is therefore the first practical step to be taken. A method of rat extermination formed the subject of a valuable communication to the Congress by Lieutenant-Colonel **A. BUCHANAN**, I.M.S. His advocacy of the cat as the most obvious method of destroying rats should appeal to natives of India, especially Hindus, who from their religious doctrines are forbidden to take the life of rats. The cat, if not too well fed, is the natural enemy of the rat and does not become infected with true plague. Professor **SHIGA** of Japan, who was present at the Congress, bore testimony to the efficacy of cats in plague epidemics in the Far East. The importance of preventing the carriage of plague by sea, emphasising the necessity of disinfection of clothing and destroying of rats in the docks of infected seaports, was put forward by Dr. **G. J. BLACKMORE**, who regarded any other attempt to hinder rats getting on board ships in wharf as ineffectual.

The good effects of anti-plague inoculation (by vaccine prepared by the Haffkine method) were ably demonstrated by Major **R. F. STANDAGE**, I.M.S., based on work done in Bangalore in house-to-house inoculation.[2] Amongst a population of 89,599, including the military garrison, 40,573 inoculations were carried out; of these 33 contracted plague, 13 deaths occurring; 13 of the former and nine of the latter may be discounted as the disease occurred within ten days of inoculation, thus leaving 20 attacks with four deaths. Amongst the 49,026 non-inoculated 1653 attacks with 1387 deaths occurred. These figures speak for themselves. Householders popularised the movement by giving "Inoculation At Homes." The debatable question of Recrudescence of Plague was introduced by Major **S. BROWNING SMITH**, I.M.S., who has had charge of the plague preventive measures in the Punjab for many years. In some of his districts plague has recurred after long intervals, during which no signs of infection reaching the area or existing in it were apparent. He attributes the non-prevalence to the fact that the rat population becomes so thinned out or exterminated during an epidemic as to render their power of spreading the emulating Lieutenant-Colonel Keegan's enthusiastic appreciation of extraction of cataract in the capsule. That Major Smith is to be warmly congratulated on his results scarcely requires to be mentioned; that he is doing good service in expounding the advantages which he anticipates from a renewed and invigorated knowledge of an operation which has perhaps been unduly neglected we willingly admit. None the less, great as has been his experience, it must be remembered that it has been acquired in a limited field, and ophthalmic surgeons will be wise in proceeding cautiously before committing themselves to unqualified acceptance of his conclusions in their entirety.

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[2] Fully described in THE LANCET of June 6th, 1908, p. 1664.

BACTERIAL BAIT.

MICROSCOPIC as bacteria are they have their needs, which in some instances bear an analogy to those exhibited by the human race. It is possible, indeed, to separate certain kinds of bacteria from other kinds by a process of allurement, employing baits for the purpose. Those bacteria, for example, which are concerned in the process of putrefaction may be trapped or separated from the rest by offering them oxygen. A very pretty experiment in this direction consists in employing a thread of a green alga, which under the influence of the sun's rays evolves oxygen, and placing it in a drop of liquid infested with the particular bacteria. The oxygen-loving bacteria will soon gather round the points at which oxygen is evolved, just as so many fishes will be found gathered round a baiting ground. It is clear from this experiment that in the presence of both kinds of organisms, one to whom oxygen is distasteful and the other to whom it is a vital element, a means of separation is afforded. Oxygen, however, is not the only bait which can be used for the purpose of sorting bacteria. Many organisms, for example, are allured by the salts of potassium, while others find asparagin or the sap or juice of raw potatoes irresistible. This method, of course, is the principle of differentiation by which a culture of a definite composition is prepared suited to the needs of a given organism. It applies equally to the pathogenic organism as to the non-pathogenic organism, and has obvious bearings, therefore, upon the interesting but complex problem of the resistance of the human organism to disease.

PLAGUE IN RATS AT A BRITISH PORT.

ENGLAND'S world-wide communications by shipping with foreign countries expose her almost continuously to the risks of importation of exotic infection. To the port medical officer of health and his staff is intrusted the duty in this country of keeping a strict watch against the danger of invasion of our shores by cholera or plague. Occasionally the invader breaks through the first line of defence, but not often. Last year we had to report a small outbreak of plague at the port of Liverpool, comprising three cases on board a barge, but, fortunately, through the exertions of Dr. E. W. Hope, the medical officer of health, the infection was quickly destroyed and no extension took place. And now we have to mention a similar small outbreak, this time among dock rats at the port of Hull. From a printed report recently presented to the port sanitary authority by Dr. J. Wright Mason, the medical officer of health, we learn that some time in February last some dead rats were discovered in a dock shed among sacks of maize which had been landed last October from a steamship coming from a Black Sea port. These rats when found showed no signs of decomposition, and, indeed, had still fleas upon them, a sign that they had not long been dead. They were at once carefully examined in the laboratory by Dr. A. G. P. Thomson, the assistant medical officer of health, and the opinion was formed that these rodents had died from plague. This diagnosis was confirmed by Dr. Klein, to whom specimen rats had been sent. As soon as the provisional diagnosis of plague had been arrived at, Dr. Mason took active steps to ascertain the full extent of the mischief, and for this purpose search was made for dead rats throughout the other sheds in the docks; a large number of living rats were also caught and examined in the laboratory. But neither signs of undue mortality among rodents in any part of the docks, nor any infected animals, could be found. It was evident, therefore, that the infection had been limited to the particular dock shed in which the dead rats had been discovered. Rat-catchers were engaged to trap and destroy all rats in and around this shed, which was then thoroughly cleansed and disinfected. All sacks and articles likely to have been contaminated by the rats were burnt, and all persons who had been employed in the shed were medically examined and kept under supervision for three weeks. These measures and others which were carried out under Dr. Mason's direction, and with the loyal coöperation of the dock company, were entirely successful in suppressing the outbreak. As two months have now elapsed since any plague-infected rats were discovered, and as no trace has been found of infection among any of the large number of living rats which have been caught and examined during that period, it may be safely concluded that the danger is past. We congratulate Dr. Mason upon the success which has followed his well-directed measures, these having apparently freed the port of Hull from a threatened and serious danger

THE ARRANGEMENTS FOR EXCURSIONS AT THE CLOSE OF THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

THE detailed arrangements for the Sixteenth International Congress of Medicine have now been issued, with a list of the committees and a programme of the communications accepted by the several sections. The meetings of the Congress will be held in the buildings of the former Polytechnic School, Museum-korut 6/8, and the formal opening will take place in the banqueting hall of the municipal Redoute at 11 A.M. on Sunday, August 29th, 1909. The closing ceremony will occur at the same place on Sept. 4th, at 10 A.M. Six plenary sittings will be held during the Congress, at which addresses will be delivered by Professor Baccelli of Rome, Dr. E. F. Bashford of London, Professor Kütner of Berlin, Dr. Laveran of Paris, and Mr. J. Loëb of Berkeley, U.S.A. A journal will be issued daily and there will be the usual secretarial offices and bureaus. Three new subsections have been formed—viz., orthopædics, professional hygiene, and school hygiene. We described last week the arrangements for lodgings, but the general secretary desires special attention to be called to the difficulty in finding adequate accommodation which intending visitors to Budapest will experience unless they give timely notice to "The Central Travelling Ticket Office iv Vigado-ter 1. Budapest, Hungary," and secure rooms by paying for them in advance. Certain concessions will be allowed by the railway companies to members attending the Congress. In Hungary the railways allow a reduction of 50 per cent. In France the management of the State railways and the East, North, and Orleans Companies also allow a 50 per cent. reduction to members provided with the proper vouchers, whilst in England the Great Eastern Railway grants a reduction to Congress members. Members of the Congress who have paid their subscriptions will receive a circular about the end of May informing them of the method to adopt in claiming these reductions. The executive committee has arranged six excursions for members after the conclusion of the Congress. Each excursion will be "personally conducted" upon the usual inclusive terms, those who pay "first-class prices" will be entitled to a single bedroom in hotels, whilst those who pay "second-class" prices will be lodged in couples. All the excursions will start on Sept. 4th. The first will cost 150 crowns first-class and 135 crowns second-class, a crown being equivalent practically to 1*s.* It includes a visit to Kolozsvar, the ancient capital of Transylvania, the Marosujvár salt mines, and the Rév Pass. Members will return on Sept. 7th. Excursion 2 is to the High Tátra, Dobsina ice cavern, and Pöstyén baths, returning on Sept. 9th. Price 180 crowns first class, 150 crowns second class. Excursion 3 is to Lake Balaton, which is one of the largest and most beautiful pieces of inland water in Europe. Members will return on Sept. 6th. Price 130 crowns first class, 110 crowns second class. Excursion 4. The Lower Danube and Herkulesfürdö, returning Sept. 8th. Price 185 crowns first class and 155 crowns second class. Excursion 5. To Constantinople, returning Sept. 13th. Price 475 crowns first class and 375 crowns second class. This excursion will require passports *visé* at the Turkish and Roumanian consulates. It will allow of five days in Constantinople. The excursionists having visited Constantinople may return *viâ* Trieste by putting into Athens and Corfu, the additional price being 425 crowns. Constantinople will be left on Sept. 11th and Trieste is reached on Sept. 16th. We should presume that this excursion will be modified if no improvement occurs in the political situation in Constantinople before the beginning of September. Excursion 6. To Bosnia, Herzegovina, Dalmatia, and the Hungarian Littoral, returning on Sept. 13th. Price, first class 320 crowns, second class 270 crowns. The latest date of entry for any of the excursions will be August 1st, and in each case a booking fee varying from 25 to 50 crowns, which is not repayable in any circumstances, must be paid. Some of the excursions are necessarily limited in number, so that early application is desirable. So far as can be told at present the Congress appears to be viewed with favour by the medical men of the United Kingdom, for it has secured a larger number of adherents than any International Congress of Medicine since that held in Paris.

THE CLAIMS OF HOME HEALTH RESORTS.

IT is satisfactory to see signs from those who are responsible for the administration of our home health resorts of an increasing zeal to bring before the public the advantages and claims of such places, while at the same time a determined effort is taken to render them more attractive not only in regard to social amusements but in regard also to the attainment of a high standard of sanitary control. Our remarks are prompted by the formation some few years ago at Margate of a chamber of commerce, the objects of which are "to promote, advance, and protect the commercial and general interests of the port and borough; to assist in the development and improvement of the town, and to add to its attractions as an all-the-year-round health resort." This organisation has already borne fruit in favour of the interests of the borough, and it has also served to forward the work of sanitary administration. Margate now possesses a very excellent water-supply derived from the chalk hills lying towards Canterbury, and the disposal of its sewage out to sea is based on methods approved by the highest authorities on sanitary engineering. The air of Margate is, of course, greatly celebrated for its salubrity and wonderful restorative powers. On the occasion of the third annual banquet of this chamber of commerce, which was held on April 26th, the members of the organisation were able again to report progress, a fact which Lord Brassey, Lord Warden of the Cinque Ports, who was present, heartily congratulated them upon. This organisation also causes its lay members to realise the importance and the arduousness of sanitary administration, and they come to watch its application and progress with great interest and to record the results with pride. They also enter into negotiations with the railway companies with the view of inducing them to increase the facilities for enabling the public to reach the place quickly, comfortably, and at reasonable rates. There can be little doubt that as the efficiency of such a scheme of organisation increases so will the patronage of the public increase, and a great portion of it will be weaned from the often erroneous idea that only a foreign health resort can meet their case. We should like, therefore, to see the excellent example of Margate in this matter followed by other health resorts.

THE TREATMENT OF DEEP-SEATED MALIGNANT DISEASE BY THE X RAYS.

THE value of the x rays in superficial carcinomata is well established, but their value in deep-seated malignant disease is doubtful. In the *American Journal of the Medical Sciences* for April Dr. G. F. Pfahler has published an important paper based on the treatment of 35 sarcomata and 304 deep-seated carcinomata. He classes as deep-seated, growths in the subcutaneous, glandular, visceral, and osseous tissues. Most of the cases were recurrent or very advanced and beyond other modes of treatment. His results are encouraging, considering the hopeless character of the cases. In over 50 per cent. of sarcomata he obtained recoveries. The following are some examples. A girl, aged 16 years, had a small round-cell sarcoma of the orbit and was not expected to live a fortnight. She recovered after three months' treatment without damage to the eye. She remained well for four months and then rapid recurrence took place and proved fatal. A man, aged 21 years, had a round-cell sarcoma at the angle of the jaw which grew to the size of an apple in four weeks and was then excised. It recurred and again grew to the same size in four weeks and was again excised. On the fifth day after the second operation it had recurred and was of the size of half a hen's egg. Twenty-two applications of the x rays were made in five weeks and recovery took place. He is now well, three years later. A woman, aged 30 years, was seen in September, 1904. She had a round-cell sarcoma of the frontal, ethmoid, and maxillary sinuses. This was proved by examination of a section of the growth by a pathologist. 416 applications of the x rays were made. The tumour almost disappeared and after two months she returned to her occupation as milliner. She has been quite comfortable for four years. A man, aged 36 years, had recurrence in the wound left after removal of a sarcomatous testicle and a secondary growth in the left groin of the size of a hen's egg. Both growths disappeared in four months after 44 applications. He is still well, six months after the last application. Of the 35 cases of sarcoma the patients are still under treatment in nine and have shown distinct improvement. Of the 26 cases in which the treatment has been discontinued eight of the patients died and 17 recovered or, at least, have been relieved of all symptoms. Of the 17 cases of recovery recurrence took place in two. One of these was fatal and in the other recovery has nearly taken place. Considering that practically all the cases were hopeless the results are remarkable. But Dr. Pfahler does not consider his results an argument against operation. On the contrary, he believes that the best results will be obtained by operation, followed by x ray treatment. With regard to the type of sarcoma the best results were obtained in round-cell sarcoma, then in mixed-cell sarcoma, and then in spindle-cell sarcoma. Three cases of melanotic sarcoma were treated and recovery took place in all. The results in carcinoma were much less encouraging. They are difficult to summarise, as all the patients referred to Dr. Pfahler, some of whom were in a dying state, were treated. Only a few cases of primary carcinoma of the breast were treated and these were inoperable. The results were "as good as those obtained by other methods." In recurrent carcinoma of the breast brilliant results were obtained when the growth was localised. On the other hand, when it was extensive and metastasis had taken place (the majority of cases), only palliation and prolongation of life were, as a rule, obtained. In nearly all cases the tumours underwent some diminution and the patient was made comfortable. In advanced cases remarkable results sometimes were obtained. Thus a woman had two nodules in the scar left after removal of the breast and enlarged supraclavicular glands. After 44 applications in three months she recovered. The glands again enlarged and recovery again took place under the treatment. She is now living five years later. In four cases of carcinoma of the œsophagus improvement was obtained, the power to swallow solid food being restored. In ten cases of advanced carcinoma of the stomach some improved and one patient seemed to recover. In cancer of the rectum good results were obtained from post-operative x ray treatment; life was prolonged for a year or more and the patients were rendered more comfortable. 14 cases of inoperable cancer of the uterus were treated and two of the patients seemed to recover. Pain and discharge were often relieved for a time.

A NEW SEAL OF A ROMAN OCULIST.

IN 1907 the Cabinet des Médailles in Paris, through the generous donation of Commandant Mowat, became possessed of his valuable collection of nine Gallo-Roman oculist seals; this brought up the number of these relics in the Bibliothèque Nationale to 24. Early in 1908 M. Babelon, director of the Département Numismatique, was fortunately able to add another perfectly preserved medical signet, which had been found with a few other small antiquities in the garden of a resident at Langres. The seal is of flat shape, similar to a small dog biscuit, and has its inscription graven upon all four of its edges. It is cut from a piece of pale green steatite and this displays the letters quite clearly. The text is as follows, filling in the abbreviations:—

Lucii Pamii Hygini ad aspritudinem crocodes.
" " " ad omnem lippitudinem.
" " " ad sedatam diasmyrnes.
" " " ad caliginem.

The name of L. Pamius Hyginus is new, not only as far as concerns the cognomena of the old oculists, but also to the large Latin onomasticon. The collyria he employed and the complaints which by their aid he endeavoured to cure are all such as have been found mentioned upon previously known seals, and have been referred to in our columns in recent years. It is worthy of note that the arrangement of the wording is unusual, for instead of, as was commonly done, placing the collyria in each case, first followed by the word "ad," preceding the malady, the order is reversed. In the last line caligo, that is defective, or fading, vision is mentioned but no special curative ingredient given, so for its improvement the oculist appears to have relied upon his general ability. It is not probable that the diasmyrnes, or myrrh, was also intended for the treatment of caligo, because in no other oculist seal, and it is frequently mentioned thereon, is its use suggested for the purpose. In commenting upon this seal, commencing with the collyria, crocodes or saffron was a favourite remedy among the oculists, as in this instance, for "aspritudo," the palpebral granulations of trachoma. Diasmyrnes was the common ingredient for these collyria, and it has been mentioned upon nearly half of the 225 seals hitherto edited. In most cases it is stated to be useful for the cure of "lippitudo," or suppurative conjunctivitis. Here, however, the mention of the disease is qualified by the word "sedatam," indicating that its virulence was abating when Hyginus deemed the application of myrrh would prove beneficial. This qualifying term has only twice before appeared upon these seals. Upon one the text reads, "ad sedatas lippitudines," whilst upon the other "ad sedat(iones)" occurs. These oculists' seals are relics of which it is quite easy to make plaster-cast replicas, and it would be interesting if the museums of different countries would exchange casts of the respective seals in their keeping.

A PHYSIOLOGIST AS ARTIST.

Dr. Leonard Hill, who besides being an accomplished physiologist is a representative of the Faculty of Medicine of the University of London on the Senate of that body, finds time among his multifarious occupations to paint pictures, an exhibition of which is now being held at the Corner Gallery, 49, Old Bond-street, W. From a leaflet which is inserted in the catalogue we learn that, "In painting he paints to please himself, and delights in trying to catch some feeling of the light, atmosphere, and colour of landscape, and the expression of the animals he keeps at his house at Loughton." The pictures are deliberately rough, but they succeed in the points to which attention is thus drawn. For instance, Nos. 17 and 18, "The Tree Clump by the Sea" and "Autumnal Evening," well express a cool misty atmosphere, while No. 7, entitled "Vanquished," depicting a depressed-looking cock, should stimulate the artist to give his unhappy subject a dose of oxygen, make him try again, and then paint another picture and call it "Victor." The little exhibition shows Dr. Hill's versatility and artistic accomplishment in a marked manner.

FATAL ELECTRIC SHOCK IN TURNING ON THE ELECTRIC LIGHT.

IN the *Boston Medical and Surgical Journal* of Feb 25th Dr. F. E. Jones has reported the following case. A strong man, aged 21 years, worked at a forge in a machine shop. Over the forge hung a 16 candle-power incandescent electric lamp. He reached for the lamp apparently to turn on the light and cried out. His fellow workmen rushed to him and found him rigid, leaning against an adjacent wooden partition, and tightly clutching the lamp with his right hand. On breaking the contact with the lamp he fell to the floor. Efforts to resuscitate him by artificial respiration failed. All the middle joints on the back of the right hand were burned and the bone was laid bare. The lamp was hung on cords from the rafters, where its wires tapped the main wires of the building, which carried 110 volts of electricity. Careful examination failed to reveal anything out of order in the electric supply of the building; the fuses were in place at the entrance of the wires and in each lamp. In the vicinity of the building were wires carrying a much higher voltage (2300 volts) from the generating station to transformers, which reduced the voltage in the secondary currents supplied to the houses to 110. The wires from the building led to a transformer several hundred yards distant. A current of 110 volts is ordinarily used for electric lights and is quite safe to handle; it may pass through the body without causing anything alarming. The fatal shock must have resulted in some way from the primary current of 2300 volts escaping to the wires of the lamp. An electrical expert explained the accident as follows. By various means, for example, by the limbs of trees rubbing against the wire of the primary current, an opportunity may be given for escape to earth. This, however, may not occur unless a second mode of escape is possible. Then a short circuit is formed through earth from one point of escape to the other, as it offers the least resistance to the current. In this case probably one leak occurred somewhere in the primary circuit as a result of a tree rubbing against the wire. The current was then, so to speak, waiting for another leak to earth. The coils in the transformer, in consequence of poor insulation or other cause, may have allowed the primary current to escape on to the secondary wire. When the man seized the lamp he formed the second connexion with earth and the primary current of 2300 volts passed through him. In THE LANCET of Jan. 26th, 1907, p. 246, we referred to a similar accident which also occurred in America. A man received a fatal shock while using the telephone and holding an electric lamp. This was attributed to the main electric and telephone wires having been swayed together by the wind where they crossed, the insulation being burnt off, and a current of 3500 volts passing into the telephone wire. In the system of electric lighting now installed in Boston a device is adopted to prevent such accidents. The secondary wire is connected with earth at the transformer. If any of the primary current escapes to the secondary wire it therefore at once goes to earth.

RAILWAY HYGIENE.

"THE exceptionally severe incidence of influenza among the travelling public in Italy," writes an Italian correspondent, "has prompted Dr. Carlo Giongo, the well-known 'chimico igienista' (sanitary chemist) to inquire into its causes, and one of these he finds in the conditions worse than 'untidy,' nay, positively filthy, in which the said public are conveyed over the railway lines. It is no disparagement of Dr. Giongo's conclusions to state that these had been anticipated nearly half a century ago by THE LANCET'S Special Commission[1] on the sanitary risks attending railway travel in the British Isles—a Commission whose authority so impressed the travelling world that the railway companies lost no time in acting on the suggestions indicated, and, in quite a proper spirit, consulting the interests of the passenger coincidently with their own. The result has been that with few, if any, exceptions the British lines maintain an honourable lead over their Continental sisters in all that pertains to the observance of hygienic law and social amenity—a lead which, the *Gazzetta del Popolo* of Turin remarks, is best appreciated by a comparison of the Italian railways with those of the conterminous states and of these in turn with those of the British Isles. It is customary in Italy, continues the Subalpine journal, to bewail the 'disservizio' (perfunctory service) of her railways, but the evils denounced by Dr. Giongo are quite other than those connected with the time-table. Nay, they are quite as real, though not so gruesomely impressive, as those of the all too frequent 'derailments' or 'collisions' occasioned by an undermanned, underpaid, and overworked *personnel*. That '*ensemble* of "sudiceria volgare" (common filth) which seems to cling to the railway carriages of all three classes,' says Dr. Giongo, 'forms a kind of El Dorado for countless bacilli, which enjoy a "free pass" over all the Italian lines from the Alps to Etna.' Among those bacilli he places first that of influenza—that of tuberculosis coming next as 'a good second.' Having illustrated this by bacteriological considerations, he proceeds in his monograph (published in the principal weekly journal of Italy, the *Marzocco* of Florence) to insist on the appropriate remedy, which is shortly this—a thorough systematic cleansing process applied on a scale and with a vigilance long practised in the British Isles, coupled with apparatus for arresting the diffusion of dust and for disinfecting every compartment on the arrival of each train at its terminus. Descending to details, he urges the frequent change and 'sterilisation' of the cushions, particularly where the head is apt to recline. This recommendation he might have reinforced by citing the remarks made in its support by THE LANCET Commission, prominent among them being the rise of temperature in heated carriages the windows of which (too frequently in continental experience) are hermetically sealed, and the consequent liberation from the cushions or woollen paddings of effluvia absorbed from successive relays of passengers with whom personal ablution or abstersion is not a persistent habit! Dr. Giongo's appeal to the State (which in Italy is now vested with control of the railways) ought to be driven home by the Association for Promoting the Influx of Visitors into Italy—an 'association' which includes (besides members of both Houses of Parliament) many representatives of the banking, industrial, and hotel-keeping interests, and which might appropriately follow up the reforms it has already wrought in the houses of entertainment, urban and provincial, by measures for safeguarding the health of the traveller, seriously endangered as that has lately been by the insanitary conditions prevalent on the main Italian lines."

A TELEGRAM from the Governor of Hong-Kong to the Secretary of State for the Colonies states that five cases of plague were reported during the week ending April 24th, the number of deaths being three. Another telegram received at the Colonial Office from the Governor of Mauritius states that three cases of plague were reported during the week ending April 22nd, the number of deaths being three.

A SPECIAL meeting of the Dermatological Section of the Royal Society of Medicine will be held at 20, Hanover-square, London, W., on May 20th, at 5 P.M., when Dr. Louis Wickham of the Radium Institute, Paris, will give a lecture-demonstration on the Therapeutics of Radium.

THE CHARITABLE DISPENSARIES IN THE PUNJAB.[1]

BY D. F. KEEGAN, F.R.C.S. ENG.,

BRIGADE SURGEON LIEUTENANT COLONEL, I.M.S. (RETIRED).

MAY I be allowed to direct attention to Colonel Bate's report on the working of the charitable dispensaries in the Punjab in connexion with the annotation entitled "The Medical Factor in our Tenure of India"[2]? This report presents some features of great interest and deserves more than a passing notice. The aspiring specialist in ophthalmic and genito-urinary surgery in the British Isles who dips into its pages will with difficulty suppress a feeling of envy tinctured by sadness that his opportunities for rapidly acquiring manual proficiency in his own special sphere of surgery are so meagre in comparison with those of most civil surgeons whose lot is cast in the Punjab. For this report deals with 23,270 extractions of cataract, 3583 operations for artificial pupil, and 6782 operations for stone in the bladder. Irrespective, however, of the surgical interest of the report, there is a still larger and broader interest attached to it by reason of its review by the Lieutenant-Governor of the Punjab, Sir Louis Dane.

Directing our attention in the first instance to the operations for stone in the bladder, we find that out of a total of 6782 operations as many as 6034 were treated by the crushing method, with a mortality of only 2·62 per cent. To this percentage we must, however, add 1·2 per cent. for cases which appear in the columns of the report as "discharged" and "relieved" and therefore the percentage of unsuccessful results following on 6034 crushing operations amounted to

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[1] THE LANCET, January and February, 1862.

[1] [illegible] Dispensaries [illegible] E. L. Bate, [illegible]

3·82. Half, or somewhat more than half, of these 6034 crushing operations were performed on very young boys and youths, and the remainder on males varying from 16 or 18 years of age to men of very advanced years. In many cases, both in early life and advanced age, the stones dealt with were of very considerable size. These results must be considered by all competent judges as being eminently satisfactory, and are conclusive evidence that there are many past-masters in the craft of crushing vesical calculi in the Punjab. Turning to the cutting operations, which embrace suprapubic, lateral perineal, median and vaginal lithotomies, we find that the death-rate following 683 operations amounted to 11·7 per cent., excluding unsuccessful cases appearing under the headings "discharged" and "relieved." The lateral perineal lithotomies amounted to 499 cases with 55 deaths—a mortality of 11·02 per cent.; and if the "discharged" and "relieved" cases are included, the percentage of unsuccessful results amounted to 14·22. The suprapubic lithotomies amounted to 130 cases with 21 deaths, a rate of mortality of 16·15, and if the "discharged" and "relieved" cases are included the unsuccessful results amounted to as much as 25·38 per cent. If the great majority of these 130 suprapubic lithotomies were undertaken for the cure of very large calculi then the results must be considered as satisfactory; but if they were undertaken for small calculi, and the report throws no light on this point, then the results must be considered as very unfavourable. In pleasing contrast with the results following the 130 suprapubic lithotomies, 50 perineal litholapaxies were performed with four deaths, a mortality of only 8 per cent. Perineal litholapaxy is only performed in the Punjab when the stone is so large or so hard that it cannot be dealt with by Bigelow's method of urethral litholapaxy. The results which followed these 50 perineal litholapaxies go to prove what most surgeons in India who have had a large experience in treating vesical calculi have for some years believed—viz., that perineal litholapaxy or perineal lithotrity is a far better operation for very large vesical calculi than suprapubic lithotomy. Dealing with the grand total of 6782 operations for vesical calculi, we find that the proportion of crushing to cutting operations was as 8·8 to 1, and the proportion of failures following the crushing method was as 3·82 to 15·92 after the cutting methods. Or in other words, litholapaxy was more than four times as successful as lithotomy. Some years ago, when the great success achieved by surgeons in India in performing litholapaxy had begun to attract the attention of the profession in England, it was conjectured that this success was due to the great tolerance of the Indian bladder to the manipulations of the lithotrite. I need hardly point out that the statistics just quoted completely dispel this cherished illusion of the unskilled lithotritist in this country. No. Litholapaxy has triumphed in India simply because surgeons practising in our great dependency enjoy unrivalled opportunities of rendering themselves practically familiar with the lithotrite and have learned by experience how to use it with precision and dexterity.

Coming to the cataract operations, they amounted, as already stated, to the large total of 23,270, and the percentage of good vision obtained was 93·42. This percentage of success may be considered fairly satisfactory when we bear in mind that the operations were performed by a number of surgeons of varying degrees of skill and experience in cataract extraction. In Jullundur, however, where Major Henry Smith, I.M.S., performs extraction in the capsule, the success obtained was over 99 per cent. Out of the total 23,270 Major Smith must have performed about 8000 operations, for in the year 1906 he did as many as 2974 extractions, and therefore the percentage of success obtained by the average operator in the Punjab fell considerably below 93·42. Extraction in the capsule has been practised in India for several years. Lieutenant-Colonel T. R. Mulroney, I.M.S., and his assistant, the late Rai Bahadur Mehr Chand, practised it systematically. For the last 15 years Lieutenant-Colonel G. H. D. Gimlette, I.M.S., has also performed it as a routine operation. But to Major Smith of Jullundur the great credit is due of developing the technique of the operation to a surprising pitch of excellence, and as readers of THE LANCET are aware his experience of cataract extractions now extends to 20,000 cases.[3] This, perhaps, is not the time to discuss the relative advantages of extracting cataracts in the capsule as compared with the method generally adopted when the capsule is incised. Ophthalmic surgeons in Great Britain and throughout Europe look askance at extraction in the capsule, and the three leading professors of ophthalmic surgery in India have steadily opposed it. But members of the Indian Medical Service, in charge of large civil medical institutions, have never been much influenced by professional dicta. They are very independent and go their own way when once they feel that they are on the right track. There is no getting away from the fact that extracting cataract in the capsule is the ideal operation if a surgeon can do it well. It is the operation which has been the dream of all enthusiastic ophthalmic surgeons the world over, but a dream so seldom realised. It has, however, been reserved for India to realise this dream, and the brilliant results which Major Smith has achieved for some years at Jullundur have stimulated some of the more progressive and junior members of the Indian Medical Service to repair to Jullundur and there to learn the technique of the operation under Major Smith's personal supervision, and there can be little doubt that in a few years the number of surgeons in the Indian Medical Service who will perform extraction in the capsule as the operation of election will rapidly increase. For immature cataracts, extraction in the capsule is the operation *par excellence*, and when well performed the after-treatment is extremely simple and satisfactory, and secondary operations are never required. When extraction in the capsule becomes a popular operation among ophthalmic surgeons in India a great boon will be conferred on natives of the country who are now obliged to waste long periods of time whilst waiting for their cataracts to ripen.

And now to pass from the strictly professional aspects of the report to subjects of administration. The Inspector-General of Civil Hospitals having drawn attention to the inadequate number of dispensaries in certain districts, the Lieutenant-Governor remarks :—

> It has, however, to be remembered that local bodies will probably never be able to provide medical assistance at every man's door, and the time has now come when, having set an example, Government and the local authorities may expect unofficial doctors to step in and fill up the gaps. They will at first need protection against the charitable competition of the public dispensaries, to which even the well-to-do resort unfairly for gratuitous medical relief, and still more a sympathetic backing from Government officials as a support to their prestige and reputation; but, given this assistance, there can be little doubt that the future extension of medical practice in rural tracts must be largely in the hands of the private practitioner.

These remarks are most important as heralding a wider sphere of activity for native medical practitioners educated at the expense of Government, and it is to be hoped that they may take them to heart and start practice on their own account, and so oust the native quacks who prey on the unsophisticated villager. It will be observed that the well-to-do native of India does not fall far behind his well-to-do brother in the West in approaching the out-patient department of hospitals *in formâ pauperis !*

Regarding the system of financing the medical institutions in the Punjab the Lieutenant-Governor's remarks are very weighty :—

> There are few charitable objects upon which money can be more profitably expended than the dispensaries, and the Lieutenant-Governor hopes that the Indian public will gradually come to realise this. Now that arrangements have been made for enabling subscribers to earmark their subscriptions for particular objects and particular dispensaries, each subscriber will be able to see for himself the good he is doing to his fellow men, and it may be that the personal pride in an institution which he has helped to develop will open the purse-strings of many who have hesitated to give what has hitherto been really a mere donation to the funds of the district board, a body to which no particular sentiment can attach. It is by private subscription that the better classes who use the dispensaries can show their gratitude for the benefits received. With regard to public funds, the Lieutenant-Governor has in a recent case expressed the opinion that a larger share of the financial resources of the province should in future be devoted to medical relief even, if necessary, at the expense of checking somewhat the rate of the progressive expenditure on higher education. If increased expenditure on any department is feasible, the medical department has the first claim.

Here we find enunciated by a Lieutenant-Governor for the first time, as far as I know, the wholesome doctrine that "immediate care of the body," charity, in fine, should take precedence of "higher education" in India. Writing about the dearth of small lithotrites in district dispensaries in India some nine years ago in the special Stone Number of the *Indian Medical Gazette* I remarked : "In the Punjab, Sind, the North-West Provinces, and in some districts of the Bombay Presidency where stone in the bladder is prevalent, the peasant in the fields has a right to look to Government that his son, when suffering from stone in the bladder, should have it extracted by a crushing and not by a cutting operation. It may be argued that the expense of furnishing branch dispensaries with complete sets of litholapaxy instruments would be a very heavy one. Doubtless it would be, but local governments could easily divert a small portion of their educational funds for such a charitable purpose. It is the peasant who pays all our salaries in India, and our pensions when we retire, and surely he has the first claim on our charity, and it seems hard that he should be obliged to toil in order that the rich *bunniah's* son may receive an educa[illegible] expense."

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[3] THE LANCET, August 15th, 1908, p. 452.

[illegible] ngress decided [illegible]," is to be the watchword which should guide future Christianising efforts in India. The Government of India might well adopt the same motto and apply it to their own medical service in these days of unrest in their great dependency. There can be no clashing of interests between the Indian Medical Service and the Association of Medical Missionaries, for charity in its widest acceptation is the bed-rock principle of both. Members of the Indian Medical Service know full well what noble work the Medical Missionary Association, which now numbers more than 300 fully qualified medical practitioners of both sexes, has done for many years in India, and how much this charitable work has tended towards inducing the native to view the Great Sirkar with a more and more trustful and kindly eye. And the association has done this by the proficiency of its members in medicine and more especially in operative surgery. One member of the association living in a station on the bank of the Indus has done nearly a thousand operations for stone in the bladder during the last 15 years, and the aggregate number of important surgical operations performed in one year by the combined members of the association throughout the length and breadth of India is immense.

There are many ways of strengthening and reinforcing the Indian Medical Service even without adding to its numbers, which would, of course, entail a heavy expenditure of money in salaries and pensions. For instance, civil hospitals and dispensaries throughout India should be furnished with operating-rooms fully equipped in every particular to carry out aseptic surgery. To do this the sinews of war must be found, for modern surgery costs money. We have in India for some years lagged behind our surgical brethren in England and in Europe generally in the wide field of abdominal surgery through lack of suitably equipped operating-rooms. When these are supplied throughout India, Indian medical officers will be able to show as good results in abdominal surgery as they have done in the past in operations for cataract and stone in the bladder. The Inspector-General of Civil Hospitals, United Provinces, in his triennial report for the year ending 1907 writes *apropos* to an increase in the number of surgical operations:—

> [illegible]'s due in large [illegible] ple and to the [illegible] lern surgical [illegible] to operative [illegible] rgical equip- [illegible] onel Joubert, commenced a campaign against obsolete instruments and obsolete methods which is now beginning to bear fruit, and I have done my best to continue the good work by building new operating-rooms and removing defects from old ones wherever it has been possible. There is hardly an operating-room in these Provinces which has not been either rebuilt or remodelled during the past three years or for which structural alterations have not been proposed. My work in [illegible] assistant surgeons now undertake formidable abdominal and other operations with success which formerly were precluded on account of the dirty surroundings under which they had to be performed.

Better late than never. But it seems strange that the medical institutions in the United Provinces should have been obliged to wait so many years for adequately equipped operating rooms to carry out modern surgery which confers a priceless boon on the poor peasant, while large sums of money were being spent on "higher education," which can only benefit the well-to-do.

For centuries in India the itinerant coucher of lenses has been permitted to play havoc on the eyes of the simple villager afflicted with cataract, and the amount of irretrievable blindness which follows in the wake of these surgical quacks is immense. There are many members of the Indian Medical Service besides civil surgeons who are specialists in ophthalmology. If at certain seasons of the year these officers were deputed to travel through the country districts surrounding their military stations, and were supplied with tents and competent hospital assistants, ophthalmic surgery would be brought to the villages and the native coucher's occupation would be gone. The busy and hard-worked civil surgeon in the periodical inspections of his district branch dispensaries has not the time to carry out cataract operations efficiently, for he cannot do what the coucher does. He cannot decamp to a neighbouring village an hour or two after operating. He must look to the after-treatment of his cases, but there is not time to do this, and consequently the villager afflicted with cataract must come to the headquarters of the civil surgeon when he wants relief. But all who know India well are aware that though many villagers will travel hundreds of miles on foot to seek the skill of a renowned ophthalmic surgeon, many more are content to await the advent of the coucher and to trust to kismet.

In these days of unrest in India the native whom we should endeavour to influence and conciliate is the man in the field, not the voluble man in the street who wears patent-leather boots and is veneered with English. We want to influence for good the millions of patient, silent, hard-working villagers, the backbone of the country. Such men care little for Legislative Councils and Electoral Colleges. What they require is relief from suffering and bodily ailments and a just and sympathetic rule; and as long as we have them on our side we need not fear the future. The members of the Medical Missionary Association and the Indian Medical Service are potent instruments of conciliation between the governing Briton and the subject races in our great dependency; and no strangers in India know the native more intimately than they do, for it is their lot to watch and tend him when stricken by disease or accident. And it is then that his many fine qualities are best seen and recognised. And the doctors are amply rewarded by the gratitude and implicit trust reposed in them by the native. All this being so, one is tempted to ask, Was it expedient to issue within recent years rules and regulations regarding the acceptance of fees which have wounded the *amour propre* of a great medical service?

SANITATION IN INDIA.

III.[1]

Eastern Bengal and Assam.

THE annual sanitary report of the Province of Eastern Bengal and Assam for 1907 is furnished by Lieutenant-Colonel E. C. Hare, I.M.S., the Sanitary Commissioner of this province. We find that there was a marked absence of high floods and that the rainfall was practically deficient throughout the province in 1907, in contradistinction to the heavy floods that occurred in 1906. The provincial birth-rate was 37·01; this was lower than either the rate for 1906 (37·38) or the rate of the previous five years (39·31). The death-rate was 29·30, which was also lower than that for 1906 (31·67) and that of the last five years (32·19). The decrease in the mortality ratio amongst infants seems chiefly to have benefited those under one year of age. Males gave a greater mortality (30·23) than females (28·34), excepting young adult females, in whom the mortality was higher than among males. Lastly, as regards the mortality, the fall chiefly affected "other classes," the Hindus, and the Mohammadans only showing a slight decrease, whilst amongst the Buddhists there was a slight increase.

Respecting the chief diseases, the mortality from cholera gave a provincial death-rate equalling the mean of the past ten years (2·58), but the districts of Rajshahi, Bakarganj, and Noakhali suffered severely; the last two districts have the disease always more or less prevalent, as owing to their position in many parts it is extremely difficult to get water fit to drink. With respect to small-pox, the provincial mortality (0·29) was somewhat higher than that and of medical men who work for them in localities where policies for comparatively small amounts are taken out. On the one side, it may be pointed out to the companies that a thorough and careful examination, such as should be made where important pecuniary interests are involved, is not adequately rewarded by a fee of half a guinea, and that although they are entitled to expect a medical man to carry out what he undertakes, as a matter of business it cannot be to their interests to underpay him. On the other hand, a medical man should remember that a document to which he appends his signature is a statement to which that signature attests his full and unreserved assent. If he signs a document which declares that he has "this day carefully examined the proposed person," when in fact he has not done so, he places on record a statement which is untrue and for which he may at any time be made answerable. The fact that the fee which he is to be paid is not an adequate one is no excuse in such circumstances, though such a fee may be, and, in the interest of the medical profession, should be, refused.

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[1] Nos. I. and II. were published in THE LANCET of April 10th (p. 1067) and 24th, 1909 (p. 1199), respectively.

Liability for Medical Fees.

A case of some interest to medical men as to their right to recover their fees from third parties came recently before the county court at Newport in the Isle of Wight. Mrs. Woodhall, of Roland-gardens, South Kensington, described as a lady of considerable means, was sued by a medical man for £37 for attendance on the defendant's sister. Whilst staying at Yarmouth, Isle of Wight, in September last, the defendant's sister (Miss Langton) was thrown out of a motor-car and sustained a broken leg. A medical man attended the lady, paying over 50 visits. From time to time defendant was consulted about the case. When the plaintiff sent in his bill the claim was repudiated. On behalf of the plaintiff it was argued that the defendant not only approved Roentgen ray treatment when it was recommended by the plaintiff, but paid for it. Counsel for the defendant suggested that the host of the young lady should pay, but his honour held that that was a very strong proposition. If hosts were to be held responsible in such circumstances it would do much to upset week-end visits, now so much in vogue. His honour gave judgment for the full amount claimed, with costs, holding that defendant had held herself out as responsible for the payment for her sister's medical attendance. Medicines and medical aid are necessaries for which an infant may contract and render himself liable, but a parent is not liable to pay for such necessaries furnished to an infant child without some proof of a contract on his part, either express or implied, and no such contract will be implied where the infant has been allowed a sufficiently reasonable sum for his expenses (Crantz *v.* Gill, 4 Esp. 471). Where a father of a family had several of his children living at a distance from his own house, under the protection of servants, it was held that if an accident happened to one of the children he was liable to pay for the medical attendance on such child, although he might not know the surgeon called in, and although the accident might have arisen from the carelessness of the servant (Cooper *v.* Phillips, 4 C. & P. 581). In dealings between medical men and the guardians of an infant it must be borne in mind that although the expenses of an extraordinary illness do not form part of the maintenance of an infant strictly speaking, yet where there has been no extraordinary illness physic and doctors' fees must be included in the general allowance for past maintenance, and the court will not allow the guardians to claim an extra sum for the same. A master is not bound to provide medical assistance for his servant, but the obligation (if any) must arise from contract; nor will such a contract be implied simply because the servant is living under the master's roof. In all cases where a servant falls ill and is unable to pay for medical assistance, the parish is bound to supply such assistance, although the servant may not have, previously to his illness, received or stood in need of parish relief (Newby *v.* Wiltshire, 2 Esp. 739). Where a servant, who hurt her foot in getting over a gate, called in a surgeon who was not the regular medical attendant of the family without being desired to do so by her master or mistress, it was held that her master was not liable to pay the surgeon's bill (Cooper *v.* Phillips, 4 C. & P. 581). A master is bound to provide an apprentice with proper medicines and medical attendance (R. *v.* Smith, 8 C. & P. 153). While a husband and wife are living together it is a presumption of fact that the wife is agent for, and has the authority of, her husband to pledge his credit for goods supplied to their establishment which are suited to her station. A wife has implied authority to bind her husband for reasonable expenses for medicines and medical attendances incurred during illness, but this implied authority is put an end to if the husband has given sufficient notice that he will no longer be responsible for any debts which she may incur. A medical man can recover professional charges according to a scale varying with the class of patients visited, provided that the same be fair and reasonable. In all professional dealings between medical men and their patients the customs of the profession will be considered as imported into the contract unless excluded expressly or by implication.

Prosecutions under the Factory and Workshop Act, 1901, in the City.

At the Guildhall recently summonses were heard by Alderman Sir Henry Knight against Messrs. Laurence and Co., blouse manufacturers in the City, for having employed four young persons under the age of 16 years for more than seven days without having obtained certificates in the prescribed form of their fitness for their employment. As a matter of fact, two of the girls had been employed for three months and the others for four and 11 months respectively without being examined by the certifying surgeon, so that the offence was hardly to be described as a technical one only, in spite of the fact that since attention had been called to the matter they had been examined and had been granted certificates. Sir Henry Knight, however, seems to have thought otherwise, for he is reported as having said that the matter was not very important and he inflicted a fine of 1s. only in each case, with costs. The following dialogue at the conclusion of the hearing is taken from the report in the *Daily Telegraph*:—

> Sir H. Knight: What are the costs? I really cannot hear these ladies, they will not speak up. That one (indicating Miss A. M. Newton, the inspector of factories who appeared in support of the summonses), has been better since I cautioned her. (Laughter.) The Chief Clerk: The actual out-of-pocket expenses are 27s. Sir H. Knight: I shall not give her a half-penny more. (Laughter.) This is one of those harassing Acts of Parliament which are driving business out of the City altogether. Still that is no reason why these people should not do what the law requires.

It is to be regretted that such an expression of opinion should have been uttered by a magistrate in enforcing a section the effect of which is to prevent young persons—i.e., children under 16 years of age—from being employed at work for which they are physically unfit. The Act of Parliament to which he referred as driving business out of the City applies to the whole of the United Kingdom. The attitude adopted by the learned alderman towards the women factory inspectors who, in the course of their official duties, conduct prosecutions, may point to the desirability of employing solicitors or barristers to appear in court, but no doubt it is not thought desirable to incur unnecessary expense where the law and facts are not in dispute.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 30th, 1831.

CHRONIC BRONCHITIS—PARAGORIC ELIXIR.[1]

From William's Ward a case of chronic bronchitis was presented, which had existed many years. There was sonorous and sibilous rattle in various parts of the chest, and copious frothy expectoration, with cough and dyspnœa. There was from time to time a great increase of the difficulty of breathing,—spasmodic dyspnœa. He was relieved, he said, very much by taking the compound tincture of aloes saturated with bruised aniseed. There is a sort of elixir, a secret medicine, which evidently contains a great deal of aniseed, and certainly in many cases of spasmodic difficulty of breathing, affords very great relief. I endeavoured to imitate it at the suggestion of Dr. Prout, who found in it myrrh and aloes, and considered it in every respect a compound tincture of aloes, only that it is made with rum instead of spirits of wine, and an abundance of aniseed. Of this he took one or two drachms three times a day, and, he said, with great relief. I know that many persons regret that the London College have altered paragoric. Paragoric elixir formerly contained a quantity of aniseed, and old practitioners who have used the old for many years, have told me frequently, that it is more effectual in relieving cough than paragoric as it is now made. I believe it was omitted on account of aniseed being supposed to possess no particular virtue, and yet being nauseous to many people. One gentleman told me that an old physician was very cross on hearing him regret that the aniseed was omitted, and declared that it was very properly omitted, for it turned everybody's stomach. But those best acquainted with paragoric believe, that though it may turn the stomach, the old medicine answered better. I can hardly say that I have, myself, made sufficient observations upon the two, but I have heard some elderly practitioners say, that there is a great difference in the effect of the two, and that they now keep two kinds, the new for the prescriptions of others, and the old for those who are wholly under their own care.

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[1] Dr. Elliotson on Peritonitis and Bronchitis at St. Thomas's Hospital.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9203 births and 4983 deaths were registered during the week ending April 24th. The annual rate of mortality in these towns, which had been 17·0 and 17·1 per 1000 in the two preceding weeks, declined to 15·8 per 1000 in the week under notice. During the first three weeks of the current quarter the death-rate averaged 16·6 per 1000, while in London during the same period the mean rate was 16·1. The lowest recorded annual death-rates in these towns last week were 7·1 in Hornsey, 7·5 in Reading, 7·7 in Ipswich, and 8·5 in Willesden; the rates in the other towns ranged upwards to 21·1 in Preston, 21·4 in Plymouth, 22·4 in Wigan, 24·3 in Middlesbrough, and 26·5 in Swansea. In London the recorded death-rate during the week was 15·0 per 1000. The 4983 deaths from all causes in the 76 towns last week showed a decrease of 414 from the number in the preceding week, and included 518 which were referred to the principal epidemic diseases, against 593 and 584 in the two preceding weeks; of these 518 deaths, 265 resulted from measles, 131 from whooping-cough, 48 from diphtheria, 33 from diarrhœa, 28 from scarlet fever, and 13 from "fever" (principally enteric), but not any from small-pox. The 518 deaths from these epidemic diseases in the week under notice were equal to an annual rate of 1·6 per 1000, against 1·9 in each of the two preceding weeks; in London also the recorded death-rate from these diseases last week was equal to 1·6 per 1000. No death from any of these epidemic diseases was registered last week in Cardiff, Newport (Mon.), Hastings, Wallasey, or in six other smaller towns; the annual death-rates therefrom ranged upwards, however, to 3·5 in East Ham, in Wolverhampton, and in Stockport, 3·7 in Swansea, 5·8 in Wigan, and 7·1 in St. Helens. The fatal cases of measles in the 76 towns, which had declined from 438 to 321 in the five preceding weeks, further fell last week to 265; the highest death-rates from this disease were 2·4 in Derby, 2·5 in Devonport and in Wolverhampton, 2·9 in Plymouth, 3·8 in St. Helens, and 4·0 in Wigan. The deaths from whooping-cough, which had been 103, 107, and 130 in the three preceding weeks, were 131 in the week under notice, and caused death-rates ranging upwards to 1·2 in Wigan, 1·8 in Preston, 2·7 in St. Helens, and 3·2 in Swansea. The fatal cases of diphtheria, which had bee
rose to 48 last week,
being 1·3 in West H
and the 13 referred to "fever" showed a decline in each case from recent weekly numbers, and the 28 fatal cases of scarlet fever were fewer than the number recorded in any previous week of this year; 10 of the scarlet fever deaths belonged to London and its suburban districts, four to Liverpool, four to Manchester, and two to Sheffield. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had decreased from 2873 to 2294 at the end of the seven preceding weeks, had further declined to 2219 on Saturday last, April 24th; 265 new cases were admitted during the week, against 273, 256, and 244 in the three preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 310 and 341 in the two preceding weeks, declined again to 294 in the week under notice, and were 18 below the corrected average number in the corresponding week of the five years 1904–08. The deaths in London directly attributed to influenza numbered 45 last week, and were 20 above the corrected average number. The causes of 43, or 0·9 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, Manchester, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 50 other smaller towns; the 43 uncertified deaths included six in Liverpool, six in Sheffield, five in Birmingham, and three each in Bury, Blackburn, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 17·7 and 18·4 per 1000 in the two preceding weeks, declined again to 17·4 per 1000 in the week ending April 24th. During the first three weeks of the current quarter the annual death-rate in these towns has averaged 17·8 per 1000, and exceeded by 1·2 per 1000 the rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rates in the week under notice ranged from 14·0 in Leith and 14·1 in Aberdeen to 18·5 in Edinburgh and 21·0 in Paisley. The 620 deaths from all causes registered in the eight towns last week showed a decline of 36 from the number in the previous week, and included 86 which were referred to the principal epidemic diseases, against 90 and 98 in the two preceding weeks; of these 86 deaths, 46 resulted from whooping-cough, 18 from diarrhœa, eight from "fever," six from measles, five from diphtheria, and three from scarlet fever, but not any from small-pox. These 86 deaths from epidemic diseases were equal to an annual rate of 2·4 per 1000, or 0·8 more than the mean rate during the week under notice from the same diseases in the 76 English towns. The fatal cases of whooping-cough, which had been 47, 55, and 58 in the three preceding weeks, declined again last week to 46, of which 22 occurred in Glasgow, nine in Edinburgh, seven in Aberdeen, three in Dundee, three in Greenock, and two in Paisley. The 18 deaths from diarrhœa corresponded with the number in the preceding week, and included six in Glasgow, four in Dundee, three in Edinburgh, two in Aberdeen, and two in Leith. The deaths referred to "fever," which had been seven and four in the two preceding weeks, rose again to eight in the week under notice; these eight deaths included four from enteric fever in Glasgow and one in Leith, and one from cerebro-spinal meningitis in Edinburgh, one in Aberdeen, and one in Perth. The six fatal cases of measles exceeded the numbers in other recent weeks, and included five in Paisley. Three of the five deaths from diphtheria, and two of the three deaths from scarlet fever were registered in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 108 and 135 in the two preceding weeks, declined again to 118 in the week under notice, but exceeded by five the number returned in the corresponding week of last year. The causes of 13, or 2·1 per cent., of the deaths registered in the eight towns last week were not certified; in the 76 English towns the proportion of uncertified causes of death during the same week did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been 25·5 and 27·7 per 1000 in the two preceding weeks, declined again to 24·5 per 1000 in the week ending April 24th. During the first three weeks of the current quarter the death-rate has averaged 25·9 per 1000, whereas the mean rate during the same period did not exceed 16·1 in London and 17·3 in Edinburgh. The 187 deaths of Dublin residents from all causes during the week under notice were 25 fewer than the number in the previous week, and included 12 which were referred to the principal epidemic diseases, against 17 and 21 in the two preceding weeks. These 12 deaths were equal to an annual rate of 1·6 per 1000, the rate from the epidemic diseases during the same week being 1·6 in London and 1·9 in Edinburgh. Of the 12 deaths from these epidemic diseases in Dublin last week, six resulted from whooping-cough, three from "fever," two from measles, and one from diarrhœa, but not any from small-pox, from scarlet fever, or from diphtheria. Compared with the numbers in the two preceding weeks, the deaths from whooping-cough, from measles, and from diarrhœa showed a decline, while those referred to "fever" were in excess. The 187 deaths registered during the week included 28 of infants under one year of age and 59 of persons aged 60 years and upwards, both these numbers being lower than the corresponding numbers in the preceding week. Two inquest cases were registered, but no death was attributed to violence; while 84, or 44·9 per cent., of the deaths occurred in public institutions. The cause of one death in Dublin last week was not certified; in London all the 1393 deaths were duly certified, while in Edinburgh the proportion of uncertified deaths was 3·2 per cent.

THE SERVICES.

Royal Navy Medical Service.

The following appointments have been notified:—Fleet-Surgeons: C. Bradley to the *Cæsar*, on recommissioning; and R. H. J. Browne to the *Temeraire*. Staff-Surgeons: P. H. Bannister to the *Skirmisher;* and G. E. Duncan to the *Sentinel*, on recommissioning. Surgeon: A. S. Bradley to the *Hussar*, additional and on recommissioning.

Royal Army Medical Corps.

Lieutenant-Colonel Tom P. Woodhouse to be Brevet-Colonel under the provisions of Article 35 and 307 of the Royal Warrant for Pay and Promotion, 1907 (dated April 28th, 1909).

Major W. Hallaran, who has returned from Jullundur, has been appointed to the London District.

Reserve of Officers.

The appointment of Captain Herbert E. Dalby, of the late Royal Army Medical Corps (Militia), which was notified in the Gazette of Nov. 17th, 1908, is cancelled.

Territorial Force.

Royal Army Medical Corps.

3rd London General Hospital: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel John Adams, from the 21st Middlesex (The Finsbury) Volunteer Rifle Corps, to be Lieutenant-Colonel with the honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). William Kirman Pauli, late Surgeon-Lieutenant, 3rd Volunteer Battalion, The Royal Fusiliers (City of London Regiment), to be Major (dated March 31st, 1909).

2nd Western General Hospital: Lieutenant-Colonel Alfred H. Young resigns his commission (dated Feb. 27th, 1909). Major William Thorburn to be Lieutenant-Colonel (dated Feb. 28th, 1909). Frederic Hibbert Westmacott to be Major (dated Feb. 28th, 1909).

For attachment to Units other than Medical Units.—The undermentioned officers, from the Westmorland and Cumberland Imperial Yeomanry, are appointed to the corps, with precedence as in the Imperial Yeomanry (dated April 1st, 1908): Surgeon-Major Joseph Edward Bowser to be Major; Surgeon-Lieutenant John Livingstone to be Lieutenant. Lieutenant Thomas Price Thomas, from the Royal Army Medical Corps (Militia), to be Lieutenant, with precedence as in the Militia (dated March 11th, 1909).

Unattached List for the Territorial Force.—Surgeon-Captain Henry Waite, from the 2nd (Leeds) Yorkshire (West Riding) Royal Engineers (Volunteers), to be Surgeon-Major (dated Feb. 4th, 1909).

Volunteer Corps.

Rifle: The Cambridge University Volunteer Rifle Corps: Surgeon-Captain (Honorary Lieutenant in the Army) Robert W. Michell, not having signified his wish to serve in the Territorial Force, is struck off the strength of the corps (dated March 31st, 1908).

Royal Army Medical Corps Examination.

An examination of candidates for not less than 20 commissions in the corps will be held on July 28th and following days. Applications to compete should be made to the secretary, War Office, S.W., not later than July 19th next The presence of candidates will be required in London from July 26th.

Correspondence.

"Audi alteram partem."

CONVULSIONS UNDER CHLOROFORM.

To the Editor of The Lancet.

Sir,—The occurrence of convulsions during chloroform syncope, referred to by Dr. A. E. Russell in his Goulstonian lectures, is a matter of considerable interest which has not received the attention it deserves. 15 years ago,[1] before the Society of Anæsthetists, I remarked upon the similarity of the symptoms in certain cases of death under chloroform to those occurring in death from failure of the circulation from other causes—e.g., sudden hæmorrhage and cardiac syncope. I argued from this that deaths under chloroform were due to failure of the circulation and not to gradual paralysis of the respiratory centre. In a continuation of that paper[2] I suggested that the presence of convulsions or muscular disturbance in chloroform fatalities was a further argument in favour of sudden paralysis of the circulation being the cause of death.

The object of the two papers and others[3] subsequently published was to bring out the fact that the signs of failure of the circulation under chloroform are identical with those present under similar conditions occurring during consciousness—that is, exaggerated respirations, pallor and dilated pupils, with, in certain cases, muscular disturbance of a spasmodic character. The non-appreciation of this obvious fact is responsible for many of the deaths from chloroform. Gradual respiratory paralysis as the sole cause of death under chloroform has been so insisted upon that the significance of too free respiratory movements is apt to be overlooked. Secure in the belief that gradual cessation of respirations is the main danger, the chloroformist may easily take the free respirations as a sign of well-being. This failure of the circulation invariably sets in at an early stage of the inhalation, just at the period when the attention of the administrator is most likely to be distracted by preparations for the operation. Under these circumstances, the exaggerated respiratory movements pass for normal breathing; it is their sudden cessation which attracts notice to the grave condition of the patient. The only treatment for these cases is artificial respiration, so applied as to exert vigorous compression of the chest. The object of this is to stimulate the heart and to raise the blood pressure, not to get air into and out of the lungs. This, too, is often misunderstood, for even if the serious condition of the patient is recognised while respiration continues, nothing is done because artificial respiration seems uncalled for when free breathing is present. Thus the only chance of resuscitating the patient is lost, for to be effective artificial respiration must be begun on the first onset of exaggerated respirations.

Dr. Russell suggests that "in cases of chloroform syncope the anæsthetic would doubtless negative the spasm." This is true only to a limited extent and is governed mainly by the degree of general anæsthesia present when the syncope occurs. The valuable list of chloroform accidents collected by The Lancet Chloroform Commission contains a number of cases in which muscular disturbance was present. These varied from mere trismus or slight muscular rigidity to pronounced convulsions and opisthotonos The factors which chiefly determine the extent of the muscular action are: the stage of general narcosis at which the syncope sets in; the suddenness and completeness of the arrest of circulation; the presence of any cause calculated to facilitate the induction of cerebral anæmia, such as the sitting posture; the condition of the muscular system as regards vigour and stability. The following cases taken from THE LANCET list illustrate the influence of the above conditions.

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[1] The Mechanism of Death under Chloroform, The Lancet, Nov. 17th, 1894, p. 1148.

[2] Ibid., Sept. 11th, 1897, p. 656.

[3] A Case of Death under Chloroform, The Lancet, July 30th, 1898, p. 260; Accidents from Chloroform Anæsthesia, Medical Chronicle, 1906.

Case 55, a male, aged 30 years; operation, removal of necrosed bone from finger; duration of administration, from three to four minutes. Sitting posture. Symptoms: "Raised hands and trembled, kept spitting at the lint; appeared about to vomit. Suddenly he was violently convulsed as if in an epileptic fit." Here are associated an obviously slight degree of narcosis; the sitting posture conducive to cerebral anæmia; a young man with only a trifling ailment, therefore probably with vigorous muscular system. The arrest of circulation from the syncope produces "violent convulsions."

Case 83, a girl, aged 12 years; operation for necrosis of tibia. Symptoms: "Deadly pallor, twitching of muscles about mouth, eyes rolling up, pupils dilated, stertorous breathing." In this instance the syncope came on at a much more advanced stage of the anæsthesia, and the patient was presumably recumbent; the muscular disturbance was therefore slight.

These two cases are examples of many set forth in THE LANCET report and show the two extremes of muscular disturbance induced by chloroform syncope.

I have heard about, and been asked the treatment for, cases in which there occurs rigidity or fixation of the respiratory muscles in a condition of expiration. I have never seen any such symptoms, but imagine that such a condition is merely part of a general muscular action due to cerebral anæmia. It is most probably the contraction of the muscles immediately preceding dissolution. No doubt it is equivalent to the "sudden stiffening of all the muscles" which is referred to by Dr. Russell as exhibited by cats, when the cerebral circulation is interrupted. The only treatment under such circumstances is to attempt to restore the circulation, but at such a late stage there is very little chance of success except by direct massage of the heart. In this connexion Dr. Russell's remarks about the length of time the brain and heart can withstand the loss of circulation are very interesting and encouraging. If the brain can survive the loss of circulation for five minutes and the heart a much longer period of arrest, surely chloroform accidents should be more amenable to treatment? That they are often so hopeless is due to the fact that the symptoms of danger are not recognised sufficiently early. If the brain can do without circulation for five minutes the basal centres which are more fundamental in their nature should survive still longer. We are thus confronted by the fact that the respiratory centre, for instance, may be exhibiting energy for some minutes after cessation of the circulation; that the patient may, and no doubt does, continue breathing or making respiratory efforts for some time after the heart has ceased to beat or at least to beat effectively. This possibility makes it all the more necessary for the respirations to be studied carefully during chloroform administration, in conjunction with the circulation. Any alteration in the rhythm or character of the respiration, especially of the nature of an acceleration, should be viewed with suspicion and be checked by observation of the circulation. Failure of the circulation is indicated at once by exaggeration of the respirations, with which are associated pallor and dilated pupils. These symptoms may set in at any period of the inhalation, but almost invariably occur within the first few minutes of the administration.

I think that a proper appreciation of the first signs of danger under chloroform and prompt treatment will do more to diminish the number of fatalities than the use of any apparatus, however ingenious.

I am, Sir, yours faithfully,

ALEXANDER WILSON, F.R.C.S. Eng.,
Honorary Anæsthetist, Manchester Royal Infirmary;
Honorary Lecturer on Anæsthetics,
University of Manchester.

Manchester, April 20th, 1909.

THE UNIVERSITY OF LONDON AND THE STUDY OF ANTHROPOLOGY AND ETHNOLOGY.

To the Editor of THE LANCET.

SIR,—In the article on "An Imperial Bureau of Anthropology" published in THE LANCET of April 10th, you say that "the Universities of Cambridge and Oxford have established boards of anthropological studies, with the power of granting diplomas to those who have qualified by studies under their direction in prehistoric and historic anthropology and ethnology (including sociology and comparative religion, physical anthropology, and psychological anthropology). While the students at Oxford and Cambridge are thus provided for, no opportunities are given to students in London."

May I point out that for the past few years, owing to the munificent generosity of Mr. Martin White, the teaching of the subjects to which you refer has been carried on in London by two University professors of sociology, Mr. L. T. Hobhouse and Dr. E. A. Westermarck, and by a University lecturer in ethnology, Dr. A. C. Haddon (who holds a similar post at Cambridge). Sociology forms part of the curriculum, as an optional subject, both for the B.A. honours degree in philosophy and for the B.Sc. honours degree in economics, and the London classes in this subject are flourishing. The University is at the present moment making efforts to secure a permanent endowment for ethnology similar to that which has already been provided for the chairs of sociology, and for the past 12 months the Senate have been in communication with the Colonial Office with a view to ascertaining whether that Office would be able to assist and coöperate with them in the establishment of an ethnological department on a satisfactory basis.

With reference to the concluding paragraphs in your article, I beg to point out that the University has recently established a board of studies in ethnology.

I am, Sir, your obedient servant,
W. J. COLLINS, Vice-Chancellor.

South Kensington, S.W., April 27th, 1909.

*** We are glad to know from Sir W. J. Collins that a board of studies in ethnology has now been established by the University of London; in the last issue of the Calendar of the University (1908-09, p. 153) it is stated this board "is not yet instituted."—ED. L.

THE VASO-MOTOR THEORY OF EPILEPSY.

To the Editor of THE LANCET.

SIR,—In his admirable [illegible] above subject Dr. Alfred to a work of mine in w views. He says: "Francis Hare maintains that the explanation of the aura is to be sought in the peripheral vaso-constriction which he postulates as preceding the cardiac inhibition."[1] The reference is accurate but incomplete. Some epileptic auræ felt at the periphery are certainly due to peripheral vaso-motor action, whether constrictive or dilative. In proof whereof I have adduced the following paragraphs from Hilton Fagge and Trousseau respectively.[2] "The patient perhaps experiences a sensation of coldness or weight in a limb; and the part is found on examination to be pale and cold to the touch, and to have its sensibility distinctly blunted" (Fagge). Others of the vascular changes may be peripheral and dilative. "A local determination of blood may occur in the finger, for instance, causing it to swell, reddening the skin and rendering it successively within a very short time red, and of a more or less deep violet colour. . . . The swelling is real, not apparent, for rings previously easy suddenly become too tight for the fingers" (Trousseau). So much for peripheral vaso-motor action as explaining some auræ felt at the periphery.

That, however, is but one side of the subject On the same page *I go on to say*: "But many auræ are unas [illegible] with appreciable objective changes in the part who seem to arise. Then it is not unnatural to believe that invisible vascular changes, similar in character to the visible peripheral vascular changes just described, are taking place in the cerebral centres and are the immediately responsible factors. On this view, we can understand many of the auræ of the special senses, observable also in migraine; and we can appreciate the time differences between the auræ of epilepsy and of migraine."

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[1] THE LANCET, April 10th, 1905, p 1031.
[2] The Food Factor in Disease, 1905, vol 1, p 33

I am, Sir, yours faithfully,

Upper Norwood, April 25th, 1909. FRANCIS HARE.

THE PROXIMATE FACTOR OF DELIRIUM TREMENS.

To the Editor of THE LANCET.

SIR,—In my letter which appeared in THE LANCET of April 17th, p. 1136, I stated that "there are many more regular or continuous drunkards than periodic drunkards, but the latter are just as liable to suffer from delirium tremens as are the former." Dr. F. Hare considers that the opinion I express is not in accordance with generally received views.

It is difficult to determine what the generally received views are, for a reference to the works of various writers will demonstrate that opinions differ on the point. I base my opinion on the histories of 896 cases of inebriety, the records of persons who have been admitted into the Dalrymple Home Retreat. Of this number 669 were regular drinkers, 215 of whom had suffered from delirium tremens. The periodic inebriates numbered 227, of whom 74 had had delirium tremens. In both classes the delirium tremens percentage works out at about 32. By periodic inebriate I mean persons who at regular or irregular intervals give way to outbursts of alcoholic excess; between the outbursts they are either temperate or are total abstainers. The 669 regular drinkers mentioned above are entirely composed of the soaker and the chronic alcoholist who manifests occasional outbursts—types referred to by Dr. Hare. I have found that these persons, as well as the periodics, can have their liquor cut off suddenly with perfect safety.

Dr. Hare further finds that my statement is opposed to his experience at the Norwood Sanatorium. His experience there, unless I misread his report, has consisted of 13 cases of delirium tremens which occurred among some 200 admissions during a period of about two years, a number which appears to me totally insufficient as a basis for contention.

I am, Sir, yours faithfully,

April 26th, 1909. F. S. D. HOGG.

THE RÔLE OF THE SALIVA IN THE TRANSMISSION OF TUBERCLE.

To the Editor of THE LANCET.

SIR,—In connexion with the instructive article by Dr. N Neild and Dr. E. V. Dunkley on "The Rôle of the Saliva in the Transmission of Tubercle"[1] the following may be of interest to your readers. A patient attending the inoculation department at the London Hospital, suffering from lupus of the nose and naso-pharynx, is by trade an envelope folder. I questioned her to-day about the details of her work and find that her duties are folding, gumming, and sticking envelopes. The gum is applied with a brush and the flaps are then pressed down; should there be any excess of gum pressed out along the flaps, this has to be licked off with the tongue of the folder so that the envelopes shall not stick together when piled up. It seems, therefore, that if tubercle can be transmitted by licking envelopes the danger may be to the sender as well as to the receiver.

I am, Sir, yours faithfully,

York-street, Portman square, W. G. T. WESTERN.

THE DISAPPEARANCE OF MR. JOHN DAVIDSON.

To the Editor of THE LANCET.

SIR,—Among the documents found since the disappearance of Mr. John Davidson was one in which he speaks of his inability to face the effects of cancer. His family wish, in the circumstances, to discover on what grounds he based his belief that he was suffering from this disease, and I write on their behalf to ask if you will allow me, through your columns, to request any medical man whom Mr. Davidson might have consulted in the last few years to communicate with me at this address if he feels himself free to do so.

I am, Sir, yours faithfully,

GRANT RICHARDS.

36, Roland-gardens, S.W., April 23rd, 1909.

AN AMBULANCE SERVICE FOR THE METROPOLIS.

To the Editor of THE LANCET.

SIR,—I think that if Mr. H. Nelson Hardy (who writes under the above heading in THE LANCET of April 24th) had read with care the Blue-book containing the report of the Ambulance Committee, or your article upon it in THE LANCET of April 3rd, he would have seen that the question of providing an ambulance service for London, if such a service is to be efficient, economical, and useful, is hardly to be solved by the Home Office authorising the purchase of ambulances by the police. Ambulances have to be housed, maintained, and manned, telephonic communication must be so established as to enable them to be speedily summoned, and all this has to be paid for. Also, as your article makes clear, the service in order to be of real utility will have to be so arranged that it can deal not only with street accidents but with those on private premises, and with other cases which, though needing removal by ambulance, are not accidents. The committee was pretty fully informed as to the excellent work carried out in the City under Captain Nott Bower; it had his evidence and that of a large number of other witnesses, including police surgeons and other members of the medical profession; it had visited and examined on the spot the systems in use at Manchester and Liverpool; it had detailed information from a number of provincial boroughs, and also from Paris, Berlin, New York, Boston, and other foreign cities. The question of police administration is thus summed up in his memorandum to the report by Sir William Collins, who says on this point: "There is much to be said for the police undertaking the duty. If the Metropolitan Police were a municipal force, as in the City and the provinces, there can be little doubt that the duty would fall to them. As it is, there appears to be no disposition on their part to undertake it, and my colleagues consider it undesirable for various reasons to assign this additional work to them." There are many reasons which render it highly desirable that the Metropolitan Police should continue to be under the control of the Home Office and not of the London County Council, but it seems to me that London would hardly acquiesce without protest in the Home Office being authorised by Act of Parliament to levy such a rate as would be required for duties not connected with the essential functions of the police, or that it can be desirable for a body responsible only to that department to control an enlarged ambulance service. If the proposed service were confined to the removal of those suffering from street accidents within the strictly metropolitan area it might be different.

I am, Sir, yours faithfully,

April 26th, 1909. E. A. A.

CARDIFF MEDICAL SOCIETY.—The annual address of this society will be given in the lecture-hall of the Young Men's Christian Association on Friday, June 4th, at 3.30 P.M., and will be delivered, as was announced in THE LANCET of April 24th, by Dr. J. Lucas Championnière of Paris, President of the International Surgical Society, who has taken as his subject the Modern Treatment of Fractures. The annual dinner of the society will be held on the same evening at the Royal Hotel, Cardiff, at 7.30 P.M. Dr. Lucas Championnière will make the presentation of the Lynn Thomas and Skyrme Fund after the dinner. All members of the profession are cordially invited to be present at the dinner, and as the occasion is a special one it is hoped that as many as possible will avail themselves of the opportunity. Tickets (7*s.* 6*d.* each) can be obtained from the honorary secretaries, Mr. F. P. S. Cresswell, 24, Windsor-place, Cardiff, and Dr. William Martin, 17, Windsor-place, Cardiff, and it is requested that application for them be made as soon as possible, and in any event not later than May 28th.

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[1] THE LANCET, April 17th, p. 1096.

THE DRAINAGE OF CAIRO.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Continued from p. 1210.)

A COLLECTION OF BARREN SCHEMES.—SELF-CLEANSING SEWERS AND THE SEPARATE SYSTEM.—THE SCHEME THAT HAS BEEN FINALLY ADOPTED.—THE EXCEPTIONAL FACILITIES OF CAIRO: LITTLE RAIN AND LAND WITHOUT PURCHASE.

Cairo.

CAIRO, especially the European quarter, is almost flat and therefore cannot be drained by gravitation. Many schemes have been prepared so as to overcome this difficulty, but none of them were carried out. Ultimately it was determined to seek the best available technical advice. For that purpose Mr. C. Carkeet James, member of the Institute of [illegible] distinguished himself notably [illegible] the drainage of Bombay, was [illegible] of the main drainage department at Cairo. He was given a couple of years to study the situation, which he soon found to be so different from what generally exists that past experience helped him little. He faced the situation, however, with courage and ingenuity, and after a while began to prepare schemes for the drainage of Cairo; but his schemes might be likened to ninepins. Like the many proposals that had preceded his coming, they were no sooner put up than they were knocked down. His first scheme was rejected because the sewage farm which he proposed to establish was on land that might in the course of time be required for building purposes, and his pumping station was too near to dwelling houses. The site for the sewage farm in the second scheme was that which has now been accepted, but the pumping station, though away from existing houses, might prove, so it was thought, a nuisance to prospective buildings. The proposed position of the pumping station also wrecked the third scheme; and when in the fourth scheme Mr. Carkeet James sought to avoid these objections by going to the other side of the Nile the suggestion was rejected because of the difficulty and cost of carrying the sewage under the Nile by means of a syphon. A fifth scheme was thrown out because the new sites selected for the pumping station and sewage farm were not considered any improvement on those that had been previously proposed. The sixth scheme did away altogether with a sewage farm and established sewage purification works instead, discharging the purified sewage into the Nile. But there was a lack of faith in the process of purification and objections were raised to the discharge of sewage, whether purified or not, into the Nile. Schemes 7 and 8 shared the fate of their predecessors, being condemned because no satisfactory place for the pumping station had been found. The ninth scheme was only objected to on the ground of expense and the difficulty of getting sufficient water. The tenth scheme was rejected because it was too expensive, and it was held to be unnecessary to employ, as proposed, two different systems of raising sewage—namely, the vacuum and the compressed air systems. It was not till he had reached his eleventh scheme that Mr. Carkeet James contrived to reconcile the many conflicting interests which had till then successfully thwarted his various plans.

The main difficulty, as already stated, has been that the populous part of Cairo is built on a plain and therefore cannot be drained by simple gravitation to a sufficient distance to reach a conveniently situated sewage farm or any works for the disposal of sewage. On the other hand, it is possible to drain one suburban part of the city by gravitation to a pumping station, and this is defined in the scheme now accepted as the "gravitation area." The more important part of the city is divided up into small sections. In the centre of each section of what is to be called the "sectional area" there will be a Shone ejector. This system is well known and is applied in many foreign and some British towns. Theoretically its great advantage is that of giving to absolutely flat districts sewers which nevertheless have so efficient a fall as to be self-cleansing. Perhaps it may be said that at present the majority, or in any case a very large portion, of the sewers which rely only on gravitation to assure the flow of the sewage are not self-cleansing. Though the ground may be absolutely level a sufficient fall can always be given to a sewer by digging down into the earth deeper and deeper, on the one condition, however, that the sewer in question shall not be very long. Therefore the success of the Shone system depends on placing the ejectors near enough to each other. It is well known that the *ejector is a drum-shaped receptacle* which works automatically by pneumatic pressure. In the case of the English Houses of Parliament it was found that there was not a sufficient fall to drain them efficiently into the Westminster main sewer, and so the required fall was created by digging the drains down to a much lower level than the great sewer that passes by Westminster Bridge. This done, a Shone ejector was placed at the end of the system to receive all the drainage of the Houses of Parliament and raise it up again to a different height to be discharged into the Westminster main sewer. This is how it is proposed to drain at Cairo a thickly populated area measuring 1721 hectares. The success will depend on employing a sufficient number of ejectors, otherwise they would have to be placed so far apart that it will not be possible to give a steep enough gradient to the sewers feeding these ejectors for the sewers to be self-cleansing. Mr. Carkeet James, however, does not complain of any stinting in this respect. At Toulon, I remember many years ago, after the cholera scare, it was proposed to employ the same system, but the scheme, as laid down, would have worked badly because there were not sufficient ejectors.

The question of an efficient fall in the sewers is of greater importance in oriental than in English towns. In England it is very generally thought that a gradient which will give to the flowing sewage a velocity per second of 2 feet or 2½ feet (0·60 to 0·75 metre) is enough to prevent the formation of deposits on the sides of the sewers; in other words, to insure self-cleansing conditions. But in Cairo, where there will be practically no rainwater and far more extraneous matter than is the rule in England, this would be quite inadequate, and the sewers might not only be dirty but even blocked up. Therefore the scheme adopted lays down as a fundamental principle that all sewers, whether running full or half full, shall have a minimum velocity of 1·05 metres, or nearly 3½ feet per second. This should be strong enough to push forward a stone of the ordinary size of street macadam.

The power station will be situated at Pont Sahel at the commencement of the Ismailia Canal. This faces the most populous part of the city and is conveniently near to the district where the ejectors will be employed. As the power to be generated is compressed air it will occasion no nuisance whatsoever. Nevertheless, it would have been well if this power station had stood on the same premises as those occupied by the general scavenging and road department. This is the case at Sonthampton where the Shone system obtains, and the advantage is that the compressed air is used for many other purposes besides providing the motive force to raise the sewage out of and above the ejectors. It saves much labour for all the smithy work necessary to mend the town rolling stock, &c., as bellows are no longer needed. It is only necessary to touch a tap to obtain a continuous discharge of air into the fire and the force of this blast can be regulated to a nicety. Again, all the dry food, such as chopped hay or oats, given to the numerous horses, mules, &c., employed for the municipal services, is beautifully cleaned by discharging into it a current of compressed air. All the dust and impurities are blown away and absolutely pure corn and fodder given to the animals. This has so improved the horses of the Southampton municipality that they have become the pride of the town. The advantage of municipal enterprise is often somewhat to seek, but, at any rate, by it totally different services can be welded together to their mutual advantage. Thus, at Cairo the sewage scheme might be made to reduce the cost and improve the condition of the smithies, while also securing better food, therefore better health, for all the horses, mules, and donkeys employed.

The outfall of the sealed—that is, the air-tight—iron mains which receive the contents of the ejectors is not to be the general outfall of the entire system at Cairo; that is at the Pont Chamra, and into the head or commencement of the main collector which is to receive the sewage from the suburban districts that are to be drained by gravitation only. This main collector will follow the road to Teftiche-el-Koubbeh, thence along the Materieh road to Ein-el-Chams, and then it will run by the side of the Cabel canal to a point one kilometre east of the village of Kafr-el-Gamous. This collector commences at a depth of 3·03 metres. When it reaches the canal it is 4·05, but quite at the end of its course and for only a short distance, it descends to a depth of ten metres. It will be a circular sewer of 1·60 metres in diameter, with a minimum thickness of concrete of 0·35 metre and an external breadth of 2·32 metres. Into this main sewer will be drained by gravitation the old and new barracks, and all the buildings of the suburbs of Abbassieh, Demerdache, Koubbeh, Heliopolis Oasis, Zeitoum, Helmieh, Matarieh, and Ein-el-Chams, covering altogether 1258 hectares, and this is to be done immediately. Ultimately, another neighbouring area of 1775 hectares will be added. With very few exceptions the sewers will be laid at a gradient that will give a velocity of 3½ feet per second to the sewage. These branch sewers will vary from 8 to 20 inches in diameter. The main collector will be 13 kilometres in length, and at its end a great pumping station will be built to lift the sewage up and force it forward in a rising main so that it may travel yet another 11,670 metres. It will then reach the sewage farm, which is situated in the desert 26 kilometres north of Cairo. These last 11 kilometres represent the length of what is called the rising main. If it is constructed of cast iron or steel its diameter will be 36 inches (0·914 metre) and the flow 4·24 feet (1·292 metres) per second. If it is made of reinforced concrete the diameter will be 38 inches and the velocity 3·31 feet per second. The cement is more susceptible to the erosive action of the sand in the sewage, and this reduces the velocity of the flow.

The purification works will be at the foot of sand-hills to the east of the Khanka lunatic asylum at 26 metres above the river level, with a gentle fall in a southerly direction. The soil here has been analysed and found admirably suited for the purpose, and probably it will only be necessary to pass the sewage once through liquefying tanks before using it for irrigation purposes. Not only will the soil purify the sewage but it will grow almost any crop that flourishes in Egypt. A thousand feddans or acres will be brought under cultivation and should produce a revenue of £E.15 per feddan. Mr. Carkeet James, however, judging from his Indian experience, maintains that a very much larger income might be obtained. Indeed, if properly managed the sewage farm should. according to some optimistic estimates, bring in sufficient profit to cover the working expenses of the sewage scheme. In one respect Cairo is favoured among cities. It has its disadvantages, but where in Europe will any large town be found that has close to its gates such a vast expanse of unoccupied, unowned land all ready to be converted, without the cost of purchase, into sewage farms, rubbish depôts, and sites for isolation hospitals, and so on? In England especially the difficulty of dealing with sewage is that of finding land for sewage works, but the same difficulty occurs in the neighbourhood of many Continental capitals. What student of these questions has not followed with thrilling interest the homeric struggle of Durand Clay and his fellow disciples of the *tout à l'égout* doctrine to obtain land enough to create sewage farms round and about Paris. More than 40 years ago this struggle was commenced and it is not terminated yet. But in the desert which is so close to Cairo there are no proprietors of valuable land and of house property to organise demonstrations, to present petitions, to run candidates for Parliament, all so as to stop the execution of a drainage scheme which, as was the case near Paris, they imagined might cause a nuisance in their neighbourhood. At Cairo it is only necessary to go about 11 kilometres beyond the area to be drained to reach a spot in the desert where no one owns property and where no one can protest. For this exceptional facility the inhabitants of Cairo should be most thankful.

Again, Cairo enjoys the advantage of a very small rainfall. According to the carefully collected observations of the Survey Department the average rainfall in Cairo for the last 11 years is 23·50 millimetres. The maximum and minimum annual rainfall were 51·10 and 4·10 millimetres respectively. During the years in question there have been only eight occasions when the amount of rain that fell on any one day exceeded 10 millimetres (0·4 inch). On three occasions 20 and on one occasion 24·60 millimetres fell within 24 hours. Therefore the very heavy rains are extremely rare, and it would be a waste of money to provide big sewers to carry this large volume of water away. Also, it is an admitted principle that it is only the early rush of water, the first and small amount of rain, that is foul. The surface dirt is removed at the commencement of the downpour and then the water runs clear. Thus a storm overflow into the nearest river is allowed in almost all schemes of drainage. Again, if the sewers were big enough to carry away all the rain water they would be too big for the ordinary sewage. There would not be sufficient water in such large sewers during the dry weather to insure a self-cleansing action. Therefore the separate system is especially suited to the conditions prevailing at Cairo. In the neighbourhood of the Opera House an area of 290 hectares has already been drained and has its sewer outfall in the Ismailia Canal, near Pont Limoun, where the chief railway station stands. These surface drains bring water from the washings of the markets and the asphalted streets. Such water is often very foul and causes considerable nuisance. These existing drains, though not perfect and providing a velocity of only 2 feet per second, are considered good enough with slight repairs and alterations to be preserved for surface drainage.

At the outfall of this old drain the existing sump or catch-pit will be enlarged so as to arrest the silt and enable the drains to run dry, thus preventing their becoming a breeding place for mosquitoes. When the amount of this surface drainage and rain-water drainage does not exceed half the calculated maximum of flow from the drainage area it will be pumped up into the sealed sewage main, passing along the Sharia Abbas and connected with the Shone system, which in its turn discharges into the main collector, commencing at Pont Chamra and connected with the combined or gravitation system. But if through heavy rain this amount is exceeded then a storm overflow into the Nile is provided.

Without entering into all the other details, for they are based on the same principle, it will be seen at once that we have here an inconsistency. The great advantage of what is called the separate system is that it separates. When dealing only with sewage and slop water—in other words, when the rain water is excluded—it is then easy to calculate with sufficient precision to cover all practical purposes what will be the quality and the quantity of sewage arriving hour per hour at the sewage outfall. It is then possible to decide how to utilise this sewage. But if the rain water is admitted then the quantity and quality of the sewage become very untrustworthy. Now at Cairo it is proposed to establish the separate system, but the advantage in respect to the treatment of sewage which this affords is lost by allowing such rain water as there is to be pumped into the sealed mains connected with the Shone ejectors, and further discharging these sealed mains into the general collector that also receives rain water. Thus, and up to the point when the storm overflows come into action, the rain water will reach the sewage farm, having first mixed with, diluted, and altered the nature of the normal sewage. In England or any other country where rain is abundant and frequent this would be a very serious objection. In Cairo, where there is so very little rain, it may prove an advantage. The fact that rain falls so rarely increases the likelihood that the first wash of the rain will be exceptionally foul. It is therefore an advantage that the first rush of rain should go with the sewage to the sewer outfall and not flow into the river. Also, an occasional discharge of rain water into the main collector will be of service as an extra flush in case the ordinary flow should fail in its self-cleansing action. To judge, however, from the levels given, and the size of the sewers proposed, there is every reason to believe that in this respect the scheme is likely to prove satisfactory. If the sewage reaches the sewer and is accompanied with a sufficient volume of water there is but little doubt that it will be borne away at once and soon reach the sewage farm, where it will be placed beyond the possibility of injuring the population of Cairo. The laying down of such a general scheme of drainage is by far the most difficult and expensive part of the work, yet the health of the population probably depends more on the detail of the connexion between the houses and the sewers than on the sewers themselves. It is easier to have a sanitary house draining into an ill-constructed sewer than it would be to maintain the health of people living in insanitary houses that are drained into model sewers. Therefore, it will now be necessary to study the domestic details of application before a definite opinion can be formed as to the likely success of this scheme.

(*To be continued.*)

CHOLERA AND PLAGUE IN RUSSIA AND THE NEAR EAST.

(FROM THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

Cholera in Russia.

THE following figures, relating to the further progress of cholera in Russia, are in continuation of those published in my last letter on the subject.[1] Between Feb. 8th (21st) and 14th (27th) there were 110 cases of the disease, with 35 deaths, distributed as follows: in St. Petersburg, 88 cases and 25 deaths; in the St. Petersburg government, 13 cases and 6 deaths; in the Yaroslavl government, 5 cases and 2 deaths; in the Tula government, 3 cases and 2 deaths; and in the Don Cossack territory, 1 case with no death. Between Feb. 15th (28th) and 21st (March 6th) there were 97 cases with 46 deaths; of these 84 cases and 39 deaths occurred in the town of St. Petersburg, and the remainder were distributed between the governments of St. Petersburg and Yaroslavl and the Don Cossack territory. Between Feb. 22nd and 28th (March 7th and 13th) there were 51 cases and 19 deaths; of these 49 cases and 18 deaths occurred in St. Petersburg and the remainder in the governments of St. Petersburg and Yaroslavl and in the town of Kharkof (a single case, in a traveller from the north of Russia). Between March 1st (14th) and 7th (20th) 45 cases and 8 deaths were registered, all of which occurred in the capital or in the government of Yaroslavl. In that week the town of Rybinsk was declared "threatened" with cholera and the Don Cossack territory was declared free from the disease. Finally, between March 8th (21st) and 14th (27th) only 25 cases of cholera, with 5 deaths, were recorded, all in St. Petersburg, and between March 15th (28th) and 21st (April 3rd) only 10 cases, with 3 deaths, also confined to the capital.

Cholera and the Water-supply of St. Petersburg.

This marked reduction in the numbers of cases and deaths in the city of St. Petersburg and the apparent disappearance of the disease from other parts of Russia are satisfactory as far as they go, but it is evident that the infection still lingers in the capital, at any rate; the approach of warmer weather is not far off and a fresh revival of the disease in the coming summer must be regarded as almost inevitable. Some leading Russian newspapers have recently contained somewhat bitter comments on the measures, or rather on the comparative lack of measures, taken by the responsible authorities to deal with the outbreak. They point out that St. Petersburg in particular has no proper water-supply, and that the prevalence and continuance of the disease there have been mainly due to the fact that the drinking water supplied to the people has been seriously contaminated with the infection of cholera. That water is obtained directly from the river Neva. According to a communication recently made to the Duma and quoted in the journals the water is taken from the river at a point above which the stream has already been polluted by receiving the drainage of a large population. As much as 15,000,000 *vedros* (a *vedro* is equal to 2·7 gallons) of sewage is said to enter the river above the point in question. The water is said to be distributed to the town either unfiltered or imperfectly filtered. For some time past a scheme has been talked of, under which water would be brought to St. Petersburg from the Lake of Ladoga. The distance of the lake from the city is approximately 30 miles and the cost of executing the proposed scheme is estimated at about 30,000,000 roubles (say £3,000,000 sterling). It is also reckoned that at least several years would be required to carry out the scheme in its entirety, and in the meantime, it is pointed out, there is urgent need of finding some temporary and less costly method of dealing with the evil, though, with one exception, no very definite proposal has yet been made as to the form the temporary measure should take. There can be no doubt that both the question of the water-supply and that of the drainage of St. Petersburg involve very difficult problems. The main part of the city lies practically at sea-level; when high westerly winds prevail the waters of the Gulf of Finland are driven up, and a great part of the city is inundated. The population of the city is now put at 2,000,000 inhabitants, requiring about 25,000,000 *vedros* of water per day. The same quantity of liquid sewage is discharged into the Neva every day. It is impossible to render this harmless, and in the meantime it is impossible to obtain the main water-supply from any other source. Any measure that would tend to diminish even temporarily this obviously immense danger should prove welcome, and an ingenious suggestion was recently made by Dr. P. P. Bakaleinik, in a paper read before the Russian National Health Society. This suggestion is based on the obvious fact that the bulk of the sewage matter reaches the river during the day and relatively little during the night. Samples of water were taken from the middle of the Troitski bridge over the Neva at different hours of the day and in the night at 2, 4, and 6 A.M., and were analysed chemically and bacteriologically. It was found that while the specimens taken during the day contained an appreciable quantity of urea (*sic*) and ammonia and of suspended foreign matters, those taken between the hours of 2 and 6 A.M. contained none of these and were also free from the presence of cholera vibrios. (It appears to be implied, though it is not stated, that such vibrios were present in the day specimens.) The proposal made is therefore to collect the daily supply of water from the Neva in the early hours of the morning and store it in large reservoirs, from which it would be distributed to the city. Three such reservoirs, in different parts of the city, would, it is thought, suffice. They could be constructed, it is said, in about ten weeks and would cost incomparably less than the Lake Ladoga scheme. Without a full knowledge of all the circumstances it is difficult to form an opinion as to the practicability of this proposal; it would seem at first sight to offer certain distinct advantages as a temporary palliative of a serious evil, but it may perhaps be doubted whether the practical difficulties—the cost and the time required to carry out the scheme—are not considerably greater than the author of the proposal considers them to be. It would, moreover, be unfortunate if a temporary scheme such as the one proposed should stand in the way of carrying out a radical and permanent scheme for supplying the Russian capital with a pure water-supply, free from all possible chance of contamination.

Plague in Bagdad.

The records of the outbreak of plague in Bagdad were brought down to Jan. 27th in my letter published in THE LANCET of Feb. 20th (p. 578). After that date only a single death ("found dead") was observed on Feb. 5th, and on Feb 23rd the town was declared "clean," and the measures in force on persons and river boats leaving Bagdad were suppressed. In all, 157 cases and 85 deaths were registered in Bagdad since May 7th, 1908.

Plague in Jeddah.

The outbreak of [illegible]
by the following fig
in THE LANCET of

Week ending March 7th	26 cases,	22 deaths.
,, ,, ,, 14th	20 ,,	16 ,,
,, ,, ,, 21st	16 ,,	16 ,,
,, ,, ,, 28th	18 ,,	15 ,,
,, ,, April 4th	9 ,,	8 ,,
,, ,, ,, 11th	5 ,,	6 ,,

The total number of cases of plague in Jeddah since the revival of the disease there on Dec. 12th last has been 176 and that of deaths 157. This year Yanbo has so far escaped infection.

Constantinople, April 15th.

THE Fifth International Congress of Medical Electrology and Radiology will be held at Barcelona on Sept. 13th to 18th, 1910.

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[1] THE LANCET, March 20th, 1909, p. 872.

WALES.

(FROM OUR OWN CORRESPONDENTS.)

Llandudno Water-supply.

THE reputation which has so long been held by Llandudno as a health resort is in no small measure due to the excellent manner in which the requirements of the town are looked after by the local sanitary authority. Included in the municipal undertakings are an isolation hospital and a refuse destructor, and during recent years a public slaughter-house has been established. The water-supply is obtained from two small lakes, Dulyn and Melynllyn, situated in the Snowdon district not far from Carnedd Llewellyn, a mountain peak nearly as high as Snowdon itself. It is nearly 20 years since the water was first brought to the town from these lakes, and neither the adequacy nor the quality of the supply has ever been questioned. There has now been completed an undertaking which will meet the needs of the district for many years to come. A second main has been laid at a cost of £33,000, so that it is possible to deliver daily 2,500,000 gallons. The watershed of the two lakes is not only under the control of, but it is owned by, the Llandudno council, so that the possibilities of pollution are extremely remote.

The House Physiciancy at the Swansea Hospital.

Upon the position of house physician to the Swansea Hospital recently becoming vacant applications were invited from medical practitioners, and when the board of management came to make the appointment it was found that one of the two applicants had withdrawn and that the other was a lady. Dr. R. C. Elsworth proposed that the appointment should be again advertised and that candidates should be confined to men. He expressed the opinion that the staff should either be all men or all women. After some discussion and the rejection of other proposals the resolution was carried. One of the resident posts has already been filled by a lady, but there appears to be some difference of opinion among the honorary staff as to whether this is desirable.

Low Temperature of Cardiff Schools.

At the last meeting of the School Management Committee of the Cardiff Education Committee attention was drawn to the very low temperature which prevailed in some of the public elementary schools at the time when the children first assembled in the morning. The schools had been supplied with charts for recording the temperatures in the class-rooms. These were taken under the supervision of the head teachers at 9 A.M., 12 noon, and 3 P.M. In his annual report the school medical officer (Dr. E. Walford) has recorded the maximum and minimum temperatures registered during the four winter months of 1908 in some of the infant schools. A perusal of this record quite justifies the complaints made of lack of heating. In the 31 schools of which particulars are given the minimum temperature, taken at 9 A.M. in January reached 40° F. in only one instance. In two schools it was 32° and in 15 schools it varied from 33° to 36°. It would be of interest to know whether the attendances were in any way affected at these particular schools in consequence of the badly warmed rooms.

West Wales Asylum.

At the end of the March quarter there were 676 patients in the three counties (Carmarthen, Cardigan, and Pembroke) asylum. The rate of payment for the maintenance of pauper patients has been fixed at 8*s*. 9*d*. per head weekly for the current six months.

Cardiff Water-supply.

The water-supply of Cardiff is obtained from the Brecknockshire hills, where it is impounded in two large reservoirs. Even when these works were first undertaken it was realised that it would be necessary at no very distant date to construct a third reservoir unless there came a check in the growth of the town. There seems no likelihood of that taking place, and after unsuccessful attempts at securing additional supplies of water elsewhere, including the very large quantity which has to be constantly pumped out of the Severn Tunnel springs, the city corporation decided to promote a Bill to enable it to construct the third reservoir, which will have a capacity of 1075 million gallons. A committee of the House of Commons passed the preamble of the Bill on April 23rd, so that a serious effort will now be made to proceed with the undertaking. The population of the town is now estimated at 191,500 and the daily consumption of water per head is 28 gallons. The new works will take about six years to complete, and it is anticipated that even if the present rate of increase in the population continues the additional storage provided will insure the same amount per head daily in 30 years' time. The cost of the undertaking is estimated at £272,000.

April 27th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

School Blackboards.

THE medical officer of health of Haslingden, Mr. F. J. Hindle, is also medical inspector of school children, and he has made a statement as to the injurious effect on the sight of the blackboard, that it is responsible in some degree for the defective sight of the pupils. He says that the almost constant use of the blackboard causes eyestrain, and that though his own vision is perfectly normal, he has had difficulty in deciphering things depicted on the blackboard where in other circumstances the deciphering should have been easy. He has noticed that scholars resort to various expedients to overcome the difficulties arising from the shiny surface of the board. He advises that the blackboard and white chalk should be replaced by white boards or slabs and black chalk or crayon, which, he thinks, would do away with difficulties of focus and of defective sight.

The Gore Brook Again.

It would seem that the work of the Mersey and Irwell joint committee—namely, the purification of our rivers—is still very far from completion. Salford, in spite of its endeavours, is at fault, for the dry weather flow of sewage in the borough is approximately 12,000,000 gallons a day, which is about 4,000,000 gallons a day more than the present filtration beds can deal with. So the Salford Corporation is to be asked how it proposes to deal with the increase of flow of sewage. But the Gore Brook never fails to provide a subject for discussion at the meetings of the joint committee, and to bring forth some futile efforts to prevent or minimise its offensive smells. One of the last has been to sterilise the sewage effluent during dry days in the summer months. But as the chief inspector had pointed out, "there was a distinct nuisance arising from the brook in the vicinity of Birch Park" on March 21st, not usually reckoned as a summer's day. Gorton, which has to curb the tendency of the brook to make the vilest of bad smells, says it is doing all it can and throws the blame on its advisers because they had not been sufficiently insistent in their recommendations. The present state of things is that the subcommittee of the Mersey and Irwell joint committee "recommended that the clerk be instructed to inform the Gorton urban district council of the offensive condition of the stream on the date named (March 21st), and to urge it, as the sanitary authority, to take such steps as it might find necessary in order to relieve the inhabitants of its own district and of the city of Manchester of a repetition of the nuisance during the ensuing summer." But the brook heeds not legal phraseology and is no doubt prepared to surpass its former efforts in the production of vile smells. It is a curious thing that for a long series of years this dirty ditch has defied the best efforts, as they must be supposed to be, of the joint committee, the city of Manchester, and the Gorton urban district council, and, as far as present signs go, will continue to triumph over them.

Common lodging-houses.

Some little time ago Manchester was startled by a fire at a lodging-house, where 200 or 300 people could be put up. There was some loss of life, and there seemed to be a lack of supervision over those responsible. Since then, however, action has been taken with a view of securing better safeguards against fire and panic casualties. The Local Government Board has sanctioned Manchester's adoption of Part 5 of the Public Health Acts Amendment Act of last year, and the Watch Committee will be able by the end of next month to have a system of registration and to place obligations on the owners of lodging-houses, which should improve some of them and perhaps lead to the closing of some of the less desirable.

April 27th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Needs of the Scottish Universities.

THE Treasury Committee appointed by the Chancellor of the Exchequer to inquire into the needs of the Scottish Universities and Colleges for further assistance from Imperial funds visited Glasgow last week. The Earl of Elgin (chairman), Sir Kenelm Digby, Sir Harry Reichel, Miss Haldane, Professor A. R. Forsyth, F.R.S., Professor G. Sims Woodhead, Dr. Charles Douglas, and Mr. H. Warre Cornish (secretary) met in the University Court Room and took evidence from Principal Sir Donald MacAlister, Professor Stewart, and Dr. David Murray, the representatives of the University Court. The committee afterwards inspected the new laboratories for physics, physiology, &c., the library, and the Hunterian Museum, where they were received by the respective staffs of the departments. Later in the afternoon a visit was paid to Queen Margaret College.

Medical Students and the Arts Course in the University of Glasgow.

With reference to the new regulations for the arts degree, which were under consideration last week at a meeting of the General Council of the University of Glasgow, attention was drawn to No. 2 of the regulations, which read:—

> Not more than three languages other than English, and not more than two sciences, are to be included in any curriculum.

It was pointed out that the intention of the Senate was that a double degree should not be too cheap, and the scientific [illegible] result from encouraging the medical students to take the arts degree, and it was finally agreed that the regulation should read:—

> Not more than three languages other than English, and not more than two double courses, or three single courses in the department of science, are to be included in any curriculum.

Pathologist for Royal Infirmary, Glasgow.

The directors of the Glasgow Royal Infirmary have appointed Dr. John H. Teacher pathologist to the infirmary. Dr. Teacher, amongst other appointments since graduation, has held the posts of under-curator of the anatomical and pathological departments of the Hunterian Museum, assistant pathologist at the Western Infirmary, and pathologist to the Royal Hospital for Sick Children, Glasgow.

Post-Graduate Courses at the Royal Infirmary, Glasgow.

The post-graduate courses at the Royal Infirmary for the summer session will commence on May 3rd. It will facilitate arrangements if any desirous of joining any of these classes will communicate with Dr. J. M. Thom, superintendent, who will supply any further information.

Treatment of Pulmonary Tuberculosis in Glasgow.

At a recent meeting of the Glasgow parish council a discus- [illegible] principle into action. It was decided to remit to the Relief Appeal Committee to consider applications for relief that have been made from phthisical cases, which are not legally entitled to relief, and to draw the attention of the Local Government Board to the matter. It has been stated by one of the corporation committees that to put the notification in force as desired by the parish council would put an extra 1*s.* or 1*s.* 4*d.* per £ on the rates; that the capital cost would be something like £250,000; and that at least 3000 persons would require active treatment. The parish council had no means of checking these figures, but in its opinion the spread of the disease should be checked by treating the patients in the most approved manner whenever the disease was discovered. This means that cases which are not legally entitled to relief, such as patients who at the time of the discovery of the disease are practically able-bodied, must be treated.

The Municipalisation of the Sidlaw Sanatorium.

The municipalisation of the Sidlaw Sanatorium is still the all-absorbing topic of conversation in Dundee and to all appearance the question is as far from being settled as ever. At a meeting of the council, specially convened to consider the Provisional Order to obtain powers to levy a special rate for the maintenance of Sidlaw Sanatorium, payable equally by owners and occupiers, the adoption of the Order was carried by 13 votes to 9 for the previous question. At this meeting the Lord Provost read a telegram which had been received from the Local Government Board, stating, "In view of numerous important representations against the scheme the Board cannot, without further consideration, give their statutory sanction to the proposed transfer at present." A meeting of representatives of the various public bodies opposing the scheme has also been held, when arrangements were made for taking active steps to prevent the transference of the institution to the town council becoming effective till more is known about it. Delegates from the Harbour Trust, Chamber of Commerce, Citizens' Union, House Factors' Association, and the inhabitants of Auchterhouse and district were present; and it was agreed that the Local Government Board should be asked to receive a deputation and also that a committee be appointed to consider what court proceedings should be started. On April 19th a public meeting convened by the Lord Provost was held in the Kinnaird Hall to afford an opportunity for the citizens of Dundee to express their opinion on the question. A large staff of police was on duty to preserve order. After the Lord Provost had explained the subject from the town council point of view Professor D. MacEwan moved the following resolution:—

> That it is desirable in the interests of the public health of the com- [illegible] to municipalise the [illegible] rence to the proved [illegible] influences thereby secured.

Dr. J. Mackie Whyte seconded. It was moved as an amendment that the matter be referred forthwith by the town council to the decision of the electors by means of a plebiscite. After a scene of great disorder the Lord Provost brought the proceedings to a close by leaving the chair without any decision having been arrived at. The Citizens' Union has issued a circular to the ratepayers pointing out, among other things, how the cost will cripple industries and demanding a plebiscite.

Additions to the Victoria Hospital, Dundee.

Important extensions to the Dundee Victoria Hospital are about to be made. Recently the laundry of the establishment was destroyed by fire. Plans for the making good of the damage were submitted at a meeting of the executive committee on April 23rd. These provide for the erection of a new washhouse, divided into two entirely separate compartments, one for patients and the other for the staff, each with its own washing machines. A boiler steam-engine is also to be installed, and the portion destroyed is to be renewed and a common laundry provided. The total cost is to be about £2000.

Aberdeen Sanitation: Annual Report.

The report of the sanitary inspector of Aberdeen for the year ending December last has just been issued. Favourable comment is made on the work of the two health visitors, and the suggestion is offered that it might be worth considering whether a third lady should be appointed to devote her time entirely to the question of cleanliness in the houses of the people. During the year the public health committee resolved to recommend to the council that notices should be supplied to all the principal workshops and factories in the city in regard to the danger of spitting, and the council having agreed to this recommendation there were 525 such notices issued and in every case the persons in charge of the works were willing to have the notices exhibited in their premises. There were in all 1834 cases of infectious disease removed to, or treated in, the hospitals of the city, 2151 cases supervised at home, and 11,252 visits of inquiry made in connexion with all the cases reported.

Presentation to Dr. T. A. Sellar of Aberlour.

Dr. T. A. Sellar of Aberlour has been presented with a motor-car by the inhabitants of Aberlour and district and by others residing at a distance. The movement was entered into with the utmost enthusiasm and a larger sum than that aimed at—£400—was subscribed, the additional subscriptions being returned. The car is a Mors car, 12–15, R.A.C., rating 15–9, single landaulette, and in addition Dr. Sellar was presented with a list of the subscribers, an insurance policy for one year, and a deposit receipt for £35. The chairman, in making the presentation, remarked on the size of the district served by Dr. Sellar and on the esteem in which he was held throughout it. Dr. Sellar suitably acknowledged the presentation and also that of a rug sent by Dr. W. Skinner, Ballindalloch. The meeting was characterised by great heartiness and proved the appreciation of Dr. Sellar's services to the district.

April 27th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Post-Graduate Classes at Trinity College, Dublin.

FOLLOWING the precedent of last year, arrangements have been made for both summer and autumn post-graduate courses at Trinity College, Dublin. The duration of each course will be three weeks, the hours of which will be fully occupied, the working day being from 8.30 A.M. until 6 P.M. The syllabus includes a lecture by Sir C. B. Ball, the Regius professor of surgery on Cancer of the Rectum, to which he has devoted special attention. The course in physiology has been extended and now includes lectures on the absorption and elimination of protein bodies and practical work in the laboratory for three hours each week on urinary analysis. As in former years, arrangements have been made by which a limited number of members of the class can reside in College rooms and dine on Commons for a very moderate sum.

The Anti-Tuberculosis Crusade.

The professional event of the past week in Dublin was the Anti-Tuberculosis Exhibition in the Rotunda buildings for five successive days. The arrangement formulated on the original programme was for three days only, but the appreciation of over 60,000 visitors elicited the decision of the authorities to continue the exhibition to the end of the week, and the interest of the public fully justified the movement. The impression made upon the public and upon highly qualified critics among them was most favourable. The amount of material displayed for the purpose of education was large in quantity and excellent in quality. Hardly a conceivable specimen was omitted—from the model of a byre erected in the Rotunda Gardens, in which was housed a tuberculous cow, to the microbic colonies of caseation of the various tissues and organs which were exhibited in the Pathological Section under the direction of Professor E. J. McWeeney. Good coloured pictures of the tubercle bacilli in characteristic conditions of location and grouping were prepared by Dr. C. L. Birmingham of Westport. An excellent series of charts, maps, and diagrams were on view in the Pillar Room, under the charge of the Registrar-General (Sir Robert Matheson), which supplied full and up-to-date statistical information on the distribution and mortality of tuberculosis (among other important infectious diseases) in Ireland. There were models of labourers' cottages which had been lent to the exhibition by the Local Government Board, and a complete collection of the most recent disinfecting agents, apparatus, and appliances, which had been supplied by the corporation. There was a sun-box designed by Mr. Finegan, L R.C.S.I., and chalets which were constructed by Messrs. Keenan and Sons. In the Veterinary Section were displayed some typical specimens of tuberculous disease. In the section devoted to air and ventilation Mr. G. Fletcher had brought together an interesting and instructive collection of charts and models illustrative of the value of fresh air and proper appliances for ventilation in the prevention and cure of disease. The pair of "contrast houses," which were arranged by Mrs. Rushton, formed a strikingly effective object lesson. Here were displayed two bedrooms which had been furnished at the same expense with the object of showing a diagrammatic contrast between the cleanliness, cheery lightness, and neatness of arrangement of the furniture of one, and the sombre depression and helpless untidiness suggested by the careless and ill-judged (dis-)arrangement of the corresponding items in the other apartment. In appropriate proximity to this section was displayed a protective screen which had been supplied by Messrs. Smith and Sheppard, and was made to invest completely the bed of a tuberculous patient and thereby to act as a preventive against contagion. The Domestic Science Section, which was under the charge of Miss Fletcher, and the Milk Section, which was under the control of Miss McNeill and Dr. J. Lumsden, were also amongst the most successful attractions of the exhibition. In the Pillar Room during the exhibition the large central table was loaded with pamphlets and leaflets for free distribution.

The Medical Officer of Health of Belfast.

At a meeting of the public health committee of the city of Belfast held on April 22nd the following communication was read from the secretary to the Local Government Board for Ireland :—

> With reference to your letter of the 26th ult. relative to the resolution of the Belfast corporation increasing the salary of the medical officer of health from £600 to £800 by four annual increments of £50, I am directed by the Local Government Board to remind the corporation that after Dr. Whitaker's resignation in 1906 the Board strongly urged the corporation to fix a salary which would induce candidates to come forward possessing high qualifications and extensive practical experience in the sanitary administration of a large city. Notwithstanding the Board's representations and the recommendations of the Public Health Committee, the corporation adhered to their decision to fix £600 a year as the remuneration of the medical superintendent officer of health, and consequently appointed a gentleman who had only within the preceding year obtained the prescribed diploma in public health, and had not the advantage of previous training in sanitary administration. The Board cannot lose sight of the fact that the corporation, after full deliberation, less than three years ago, assigned £600 as the remuneration for the work, and that Dr. Bailie accepted office on these terms, and, having regard to their usual practice of declining to consider proposals to increase salaries until five years have elapsed after the appointment, on the ground that the fixing of a low initial salary would tend to limit competition and discourage eligible candidates, they feel unable to concur in the present proposal of the corporation.

A resolution was passed by the committee protesting against the action of the Local Government Board.

Scarlet Fever in Lurgan.

A widespread epidemic of scarlet fever has broken out in the Blough district of Lurgan. The type so far is mild, but as reported on April 19th to the urban council 46 cases have occurred, with two fatalities. Its spread was attributed by Dr. S. Agnew, medical officer of health, to the giving out of home work from one or two factories. In some of the homes disinfected they found bundles of handkerchiefs, and as the children went to and from the offices daily with such bundles every facility was given for spreading the disease. There is also a suspicion that the epidemic may be a milk one.

Royal University of Ireland.

Dr. John Campbell of Belfast has been re-elected a member of the Senate (a representative of Convocation) of the Royal University of Ireland. He had 272 votes to 94 polled for Dr. E. Magennis of Dublin.

April 27th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Getting up After Laparotomy and Labour.

AT a recent meeting of the Society of Medicine M. Lance discussed this question, which at the present time is a matter of debate on all sides. For the last dozen years surgeons, both in Germany and America, have advised that cases of laparotomy should be got up early. M. Lance undertook an inquiry as to the actual practice of French surgeons, both in Paris and the provinces, and reported to the meeting the results of his inquiry bearing on the indications both for and against this method. It would seem that in the majority of cases the ordinary stay in bed can be considerably shortened with profit to the patient, given certain conditions and modifications in the method of operating and of dressing. M. Theuveny considered that as regards the getting up of a patient after labour, the condition of involution of the uterus and the lochial discharge must be taken into consideration. No absolute rule can be laid down, for patients who had had many children, patients who had been delivered of twins, patients who were suffering from infection and who had had a very tedious labour followed by uterine subinvolution, ought to be kept in bed for some time, while, on the other hand, the patient whose uterus had sunk behind the pubes and whose lochial flow had stopped within nine days could then get up without danger. Getting up on the third or fourth day after labour was in M. Theuveny's view very imprudent. M. Cazin said that no definite rule could be laid down as to the getting up of a laparotomy patient; in the case of a patient who had undergone an operation for fibromyoma one could not be too careful. M. Dartigues said that M. Lance had been quite right in bringing up the question before the society, for it was one which was of interest at the same time to physicians, surgeons, and accoucheurs.

Some Cases of Œsophagoscopy and of Tracheoscopy.

At a meeting of the Society of Œsophagoscopy and Tracheoscopy, held on April 8th, M. Guisez showed sundry [illegible] d rendered great services [illegible] point of view. One case [illegible] apparently arising from [illegible] near the cardiac end of [illegible] ent gave reason for [illegible] ple ulcer which had [illegible] is idea and allowed [illegible] of the œsophagus was at the normal. In another case a dilatation of the aorta was diagnosed both by tracheoscopy and œsophagoscopy. This case was remarkable, for it was the first in which endoscopy afforded a diagnosis, the clinical signs being negative. Two other cases were those of foreign bodies in the œsophagus which were removed by the aid of œsophagoscopy, one being some false teeth and the other a piece of chicken-bone. In this last a portion of the wall of the œsophagus had sloughed, but the patient recovered without any bad symptoms.

The Treatment of Tuberculosis by Tuberculin.

At a recent meeting of the Academy of Sciences Professor Bouchard read, on behalf of Dr. Mantoux of Cannes, a note on the treatment of tuberculosis by tuberculin. This drug has given good results in a number of cases, but its employment is one of extreme delicacy which has militated against the more general use of the method. Dr. Mantoux injects the tuberculin, not under the skin, as has been the custom up to now, but into the thickness of the skin. It there produces a wheal (*tache*), the appearance and dimensions of which are, [illegible] physician in the administration [illegible] way can be graduated, [illegible] e temperament of the *patient and can be increased in proportion to his resistance* without fear of any untoward circumstance.

April 26th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The German Balneological Association.

THE German Balneological Association recently held its annual meeting in Berlin, Professor Brieger being in the chair.

Dr. Schmidt of Halle read a paper on Diarrhœa, in which he said that the principal feature of this condition was not the increase of peristaltic movement, but a putrid discharge from the intestinal mucosa. Concerning the therapeutic measures apart from a suitable diet, opiates, [illegible] condition. The best remedy was peroxide of hydrogen, which even in small doses was bactericidal.

Professor Kutner of Berlin read a paper on Dietetic "Cures," especially on over- and under-feeding. In adults, overfeeding was prescribed in anæmia, nervous diseases, in convalescence, and in commencing tuberculosis, but good results were obtained only when the digestive organs were healthy. The individual patient required an individual cure, and it was of importance to ascertain his tolerance for fat and carbohydrates. Some patients felt better with absolute rest in bed; other patients required some exercise. The routine prescription of the Weir-Mitchell method was therefore not satisfactory and must be avoided lest it should produce obesity. Still more precaution was required in underfeeding, and a too rapid application of this method was injurious because it might produce nephritis. Muscular work should always be prescribed. Dr. Pariser of Homburg said that constitutional obesity must be differentiated from obesity produced by overfeeding. Constitutional obesity was thyreogenic, and hypertrophy of the thyroid gland was always present. The diagnosis of constitutional obesity should not be made before it had been proved that the condition was not influenced by dietetic measures; in these cases the administration of thyroid preparations was advisable, but not in cases of overfeeding.

Dr. Determann of St. Blasien had made experiments on the Viscosity of the Blood in vegetarians and non-vegetarians, of each category in five cases. He found that the viscosity was greater in vegetarians; the principal cause of the viscosity was the globulin, whilst the sugar and the salts were without importance. He then administered in different periods a food containing much and little albumin, much and little fat respectively, and found that the food had only a small influence on the viscosity, but that the latter *depended on the quantity of hæmoglobin.*

Dr. Gottschalk of Berlin spoke on Balneotherapy and Menstruation. He pointed out that drinking "cures" might be continued during menstruation, although they might sometimes increase the blood pressure; bathing "cures," however, should always be interrupted, first because the water might contain germs which might eventually enter into the vagina and find there a good medium for growth in the discharged blood. The bactericidal action of the blood in the vagina was, moreover, decreased and the aperture of the cervix opened, so that an infection might easily happen. Mud baths should never be administered for hæmorrhage due to myomata. During menstruation the normal blood *pressure decreased* and it should not be *artificially increased* by bathing.

Dr. Schreiber of Konigsberger read a paper on Accidental Albuminuria. He had observed that palpation of the abdomen caused a temporary albuminuria in a person with atonic abdominal walls. He found the same symptom in many other people. Probably it was caused by irregularity of the renal circulation. In the discussion, Professor Brieger observed that more caution should be taken in palpating the abdomen. He had found by experiments on animals that pressure on the aorta not only caused albuminuria but also degeneration of the spinal cord. Dr. Pariser was of opinion that the albuminuria might be due to arteriosclerosis. Massage of the abdomen, which was the strongest form of palpation, had, in his numerous cases, never caused albuminuria.

Dr. Engelmann of Kreuznach discussed the Radio-active Substances in the Kreuznach springs. They were present in, and were obtained by, chemical proceedings from "sinter"—i e., residues—of which every year large quantities were produced. The radio-active emanations had been used in rheumatism, neuralgia, and sciatica, and lately in the Cancer Institute of Heidelberg by Professor von Czerny. In the discussion, Dr. Fürstenberg of Berlin said that the emanations did not penetrate through the intact skin, and that the effect of radio-active baths was therefore rather small. Radio-active waters were, according to him, most efficacious when given orally or by inhalation.

Professor Strauss of Berlin discussed the question of the Influence of Drinking Cures on the Blood Pressure. He had [illegible] in numerous cases that the [illegible] lood pressure. [illegible] only in very [illegible] r, not greater than that produced, for instance, by mastication. The administration of fluid was thus not at all harmful. In diseases of the kidney, where the increase of blood pressure was caused by the retention of nitrogenous productions of the metabolism, a drinking treatment might eventually have a curative effect by removing those toxic productions. It was not yet *ascertained whether the blood pressure decreased* by the administration of purgative waters.

Dr. Schuster of Aix-la-Chapelle reported the results obtained in Syphilis by the combination of the Aix-la-Chapelle sulphur springs with the administration of mercury. It had been alleged that this combination might eventually produce sulphate of mercury, which was inert. This opinion was, however, eironeous. Dr. Schuster succeeded in proving by quantitative analysis that during a "combined" cure of from five to six weeks the daily discharge of mercury was 6–7 milligrammes. After seven weeks it was 3–3·5 milligrammes, and after four months not more than 2 milligrammes were present in the urine. Dr. Schuster concluded that the combined cure was efficacious because the mercury was as easily absorbed as discharged, because the mercury was retained within the circulation for an adequate time, and because the Aix-la-Chapelle waters, owing to their amount of sulphur and of chloride of sodium, had themselves a curative effect on syphilis.

Dr. Fürstenberg read a paper on the Hydropathic Treatment of Neurasthenia. He said that the essential thing was to administer exact doses, and that therefore a thorough knowledge of hydropathic technique was necessary. It was a common fault for inexperienced medical men to prescribe too strong or too many applications. For proper treatment care must be taken to ascertain whether the patient offered more symptoms of irritation or of depression. In both cases the "cure" should be begun with local applications which were of very mild action. Afterwards general bathing, sponge baths, or half baths might be prescribed. In cases of nervous irritation packing or protracted "indiffeient" baths were advisable. In sanatoriums other means such as fan-douches of changing temperature might be applied. Dr. Fürstenberg then gave prescriptions for the treatment of the local symptoms of neurasthenia, such as insomnia, headache, sexual irritation, &c., but pointed out that every case required individual treatment.

Dr. Frankenhausen of Berlin discussed the Training of Students in Balneology in the German Universities. He regretted to-day that the German universities had hitherto somewhat neglected the training of students in this branch of medicine, the result being that the overwhelming majority of young medical men begin practice without having any knowledge of health resorts and watering-places. This was a great drawback, as nowadays a medical man might be compelled to prescribe balneological or climatological treatment. Dr. Frankenhäusen made some proposals for improving this undesirable state of things; he recommended that balneology should be a subject of examination in the State examination, that balneological institutes should be established at the universities, and that excursions of the students should be arranged to the most important watering-places under the guidance of the clinical teachers.

Other papers read before this Congress concerned the Blood Pressure in Arterio-sclerosis by Dr. Kisch of Marienbad, Health Resorts on the Seaside by Dr. Haeberlin of Wyk, Hygiene of Health Resorts by Dr. Sarason of Berlin, and Balneotherapy in Childhood by Dr. Hirsch of Kudowa.

April 24th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Country Places and Infectious Diseases.

As the time is now fast approaching when the higher and middle classes of the city's population are beginning to remove to country places on the upper part of the Bosphorus or on the so-called Prince's Islands in the Ismid Gulf of the Sea of Marmora, the serious attention of the medical authorities and the public is drawn to the fact that a great many of these places are very unsatisfactory from a sanitary and hygienic point of view. Some medical men who seem to know the prevailing conditions and circumstances, and who have given the matter proper consideration and made careful investigations, maintain that a good number of people who leave the narrow, dirty, and dusty streets of the city in order to enjoy the bright sunshine and the pure air of country places frequently return in a worse state of health than that they have been in previously to their removal. The reasons assigned to account for this regrettable fact are manifold. To begin with, almost all the houses on the Upper Bosphorus and the Marmora Sea are built of wood without any consideration as to the comfort or well-being of the people. Besides, the streets there are in many places so narrow that the balconies of opposite dwellings almost touch one another. Whereas in the city wherever a case of acute or chronic infectious or contagious disease is recognised the dwelling and clothing and furniture are disinfected under more or less efficient medical supervision, this disinfection is almost never carried out in country places, which have no organised medical service. It is said by a medical authority that on the Prince's Islands there is scarcely a house that has not been inhabited by a phthisical patient. In spite of that, these houses have never received a medical visitor for purposes of disinfection. The hope is expressed that the medical authorities will take the necessary measures to remedy this state of affairs, which is so dangerous to the public health.

Cerebro-spinal Meningitis.

Dr. J. B. Violi, a recognised authority here on children's diseases, thinks that the cerebro-spinal meningitis which has been epidemic of late in Northern Europe, in Switzerland, and in Italy is beginning to spread also in the Turkish metropolis. For many years past there have been only sporadic cases of this malady here and there, all strictly localised. At the end of February, 1907—i.e., soon after the European epidemic—the disease began to spread on the banks of the Bosphorus and the Golden Horn in an alarming manner. Dr. Violi does not think, however, that cerebro-spinal meningitis has come to Constantinople from Western Europe. He expresses the view that the disease originated in the Turkish metropolis and that the conditions are much more favourable to it now than they were in former years. In 1907 it reached its maximum intensity during the months of April, May, and June; it diminished in July and August, and disappeared in the autumn. In 1908 it reappeared at the end of February with the same progression and decline as in the previous year, and with the sole difference that fewer adult people were affected by it. This year it began again to manifest itself in the same month of February and is now seen in an epidemic form among the children. Dr. Violi advises parents not to be over anxious, as the present disorder, he thinks, is not of a severe type, is not likely to propagate itself extensively, and does not resemble the epidemics in western and southern Europe. The mortality figures as given by the Conseil de Santé show that in 1907 22 persons died from cerebro-spinal meningitis. In 1908, of the 250 cases 25 succumbed. These figures do not include the numbers of patients who died from tuberculous meningitis. Of the various remedies used Dr. Violi found that the injections of the anti-meningococcic serum of Merck (in repeated doses of 10 cubic centimetres) gave the most satisfactory results. The injections of collargol and Rodmann's methods did not come up to expectation. Five patients treated with Merck's serum rapidly recovered.

The Political Disturbances.

All sorts of rumours are abroad in the city and everybody is in a state of great anxiety and apprehension. It is felt that something decisive will happen soon and fear is felt that renewed bloodshed is unavoidable. The opinion is expressed on all sides that so long as the present Sultan, Abdul Hamid, remains there will be no end to the trouble. But the young constitutional party know two things well—the one is that a religious outburst of a magnitude that cannot be gauged might follow the time-honoured method of dealing in the East with a fallen sovereign, while Europe expects the party of regeneration not to look back for their models to blood-stained pages of history.

April 23rd.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Plague.

PLAGUE has not failed to reappear in Sydney as usual in the autumn and the present outlook is disquieting. The first case registered was that of a seaman on the French steamer *St. Louis* which trades between Sydney and Noumea. Almost simultaneously an employee in a city flour mill was found to be suffering from the same disease. A day later the proprietor of this establishment and his brother were removed to the Coast Hospital and both died [illegible] strict inquiry into the conduct of the officials responsible for the inspection of these premises. Another case is also registered from the steamer *St. Louis.* It was supposed that Sydney was originally infected from Noumea, but the evidence each year goes to show that the infection is slowly spreading from the wharves to the inner suburbs. Dr. T. W. Sinclair, the acting city health officer, admits that some of the foreshore is in a very bad state. Plague is also reported from Banbury, a small port in the North of Western Australia, where an outbreak occurred in the crew of a steamer from Singapore.

The Medical Inspection of School Children.

The Government of South Australia has appointed Dr. R. S. Rogers as medical inspector of school children and will formulate a scheme of its own. At the Premiers' conference of 1908 action was delayed pending an agreement for a scheme among the various States on uniform lines. Nothing has been done and South Australia declines to wait any longer. School inspection has been carried out in Tasmania and New South Wales for the past two years, but no general plan is followed.

Presentation to a Surgeon.

Mr. G. A. Syme, M.S. Melb., F.R.C.S. Eng., who is leaving for a holiday trip to Europe, was entertained at dinner by the members of the Victorian Police Force on March 19th. Mr. Syme has held the position of surgeon to the Victorian police for many years and has earned the esteem of all ranks. The presentation consisted of an illuminated address and a smoker's companion, while Mrs. Syme received a handsomely fitted travelling case. Mr. Syme has also been entertained by the medical profession at a farewell dinner.

A Proposed New Clinical School.

[illegible] f Medicine in [illegible] St. Vincent's [illegible] is the most recently built hospital in Melbourne and is managed by a nursing sisterhood of the Roman Catholic Church. At present about 120 patients are accommodated and the appointments are admirable as far as ward and theatre equipment are concerned. The Faculty has appointed a subcommittee to report on the matter and appears sympathetic, although the facilities for pathological investigation will have to be improved before the request can be entertained. Hitherto the Melbourne Hospital has been practically the only clinical school for general teaching available for University students. The Alfred Hospital has sufficient facilities and is recognised, but is too far away to be of much service. St. Vincent's is as near the University as the Melbourne Hospital and has a very large out-patient department with all the usual special subdivisions.

Fever Hospital Accommodation in Melbourne.

Attention has lately been drawn in the public press to the inadequate hospital accommodation for infectious diseases in Melb[illegible] such [illegible] fever [illegible] institution have been characterised as faulty. It possesses only two wards and hitherto has been without an observation block, though this is being added. It is not a charitable [illegible] per diem, which, moreover, must be guaranteed. The Government contributes half the upkeep but has no representation in the management. There is ward accommodation for about 60 patients. Recently a mild epidemic of scarlet fever has appeared in Melbourne and the accommodation of the hospital has been greatly overtaxed, a number of patients having to be treated in tents erected in the hospital grounds.

A Useful Career.

Mr. T. H. Lovegrove, chairman of the Board of Public Health and Chief Government Medical Officer for Western Australia, will shortly retire owing to advancing years. Mr. Lovegrove arrived in Western Australia in the very early days and has been continuously in the Government service ever since. He has done a vast amount of valuable organisation in public health work and hospital administration. He introduced female nurses into the Perth Hospital against a fierce storm of press and public opposition. He has always been a highly popular public servant and possessed the confidence of every Government throughout the many changes of administration that Western Australia has experienced in the last 30 or 40 years.

Care of Inebriates.

The Government of Victoria some time ago opened an inebriate retreat at Lara, near Melbourne, and objection has recently been made by a prominent temperance advocate that admission appeared only to be for a favoured few. Replying to these statements Mr. Ernest Jones, Inspector-General of Insane, insists that the retreat is only for voluntary patients and is in no sense custodial. Of 97 patients admitted between July, 1907, and December, 1908, 30 were received without payment, 42 paid £1 per week or less, and only 14 had paid full cost of maintenance. Admission therefore does not depend on ability to pay fees. "Our endeavour throughout," says Mr. Jones, "has been to obtain and cure those patients who are deserving of assistance and treatment and who are likely to benefit by their stay at Lara. Practically only those who make voluntary application are likely to benefit by their stay in such an institution; those who are sent there compulsorily are rarely likely to do any good and for such characters a farm colony is probably the only solution of the difficulty. But such a colony must also be custodial; it would be impossible to give to such patients the liberty which is allowed at Lara. There is accommodation for 50 male patients and we have only about 20. There are immense possibilities for doing excellent work at the institution and, I take it, it is only with the coöperation of the temperance societies that it can be made a success. We have no authority to go out and collect patients but we are always ready to receive and care for those brought to us, provided they are suitable cases for treatment in a remedial institution as opposed to a custodial one."

March 23rd.

Obituary.

SIMEON SNELL, F.R.C.S. EDIN., D.SC. SHEFFIELD,

PRESIDENT OF THE BRITISH MEDICAL ASSOCIATION; OPHTHALMIC SURGEON TO THE SHEFFIELD ROYAL INFIRMARY; PROFESSOR OF OPHTHALMOLOGY IN THE UNIVERSITY OF SHEFFIELD.

Simeon Snell, who died on April 17th during his term of office as President of the British Medical Association, was, as many of our readers will remember, in somewhat failing health during the meeting of the Association which was held at Sheffield last year, and in fact was unable to undertake the whole of his arduous duties. After the meeting he took a long holiday and on his return to work found it necessary to give up many of his numerous engagements. Some eight or nine weeks ago, however, he had to take to his bed, and although he improved about a week before his death the improvement was only temporary and he died, apparently from heart failure, while asleep, the primary cause of death being arterio-sclerosis.

Mr. Snell was born in 1851, the son of a medical man. He received his medical education at Leeds, Guy's Hospital, and the Royal London Ophthalmic Hospital, Moorfields. He qualified M.R.C.S. Eng. in 1872 and L R C.P. Lond. in the following year. In 1892 he became a Fellow of the Royal College of Surgeons of Edinburgh. He settled in Sheffield in 1874, and in 1876 was appointed ophthalmic surgeon to the Sheffield Royal Infirmary, a post which he held to the day of his death. We have received the following interesting particulars from Mr. T. Pridgin Teale upon Simeon Snell's career at this juncture: "Somewhere about the year 1869 a father brought three sons to enter them for the surgical practice at the Leeds Infirmary. The eldest, Enoch, is in practice at Nottingham. The second, John, died a short time ago at Gargrave in Yorkshire. The third, Simeon, is the one whose recent death in the height of his fame we are now deploring. About the time of his obtaining his diploma he acted as my private clinical assistant, and thus his interest and attention were directed towards ophthalmic science, an interest which was confirmed and intensified by his subsequent attendance at Moorfields and his association with Sir William Bowman. When the time arrived for his settling down in practice he became a partner with a family practitioner in Sheffield, being attracted to the partnership by the fact that the gentleman had a considerable ophthalmic *clientèle* and was at the time the chief ophthalmic surgeon in Sheffield. This gave him his opportunity, fresh as he was from Moorfields and inspired by all the latest developments of ophthalmic science. How from such a basis he rapidly acquired a leading position in the town, and eventually in the Sheffield Infirmary, everyone knows. Clear-headed, accurate, and enthusiastic, he was keenly alive to all advances and improvements in ophthalmology, whether in this country or in foreign lands." Snell at once began to take a deep interest in the Sheffield Medical School and was an energetic advocate of the University of Sheffield scheme. When this ideal was realised and the Sheffield Medical School became the Medical Faculty of the University, Snell was elected Professor of Ophthalmology and was also given a seat on the Council. His studies in ophthalmology naturally enough chiefly related to those diseases and affections of the eye which are brought about by industrial conditions, and he wrote the article on Eye Diseases and Eye Accidents in Relation to Industrial Occupations which formed part of the treatise on "Dangerous Trades" which was edited and published by Dr. (now Sir) Thomas Oliver in 1902.

In 1908 Snell received the well-deserved honour of election as President of the British Medical Association when it met at Sheffield. In his admirable Presidential Address he dealt with Sheffield as having been the "cradle of the study of industrial diseases." After giving a short account of those Sheffield medical men who had studied and reported upon various industrial diseases, especially those incident to grinders, he passed on to consider those industrial diseases which came before him more prominently in his capacity of ophthalmic surgeon. The class of disease which pre-eminently affects grinders is, of course, pulmonary disease, but eye injuries from dust and pieces of steel are also common. Many of our readers will remember the pictures given of Sheffield trades and of the workman who had a reputation among his fellows for removing foreign bodies from the eye, which Charles Reade gives in his novel, "Put Yourself in His Place." Snell in his address divided the affections and diseases of the eye which he had an opportunity of studying, under four heads: (1) diseases due to occupations involving prolonged use or excessive strain of the eyes and their muscles, such as nystagmus in coal miners and in other employments; (2) those due to occupations which involve the use of certain poisonous substances, such as di-nitro-benzol, used in making explosives, and of bisulphide of carbon, and others; (3) a consideration of the effects on the eye of occupations involving exposure to excessive light or heat or both, such as burnishers, steel smelters, electric welders, bottle makers, &c.; and (4) injuries or accidents amongst grinders, iron and steel workers, coal miners, &c.[1] The remainder of his address was mainly taken up with an account of miners' nystagmus, in which he showed how easily this complaint might become a source of danger. The duty of ascertaining whether or no the air in a mine is safe—i.e., free from explosive gases, depends upon men called deputies who go about the mine and estimate the amount of gas in the air. This is done by turning down the flame of the safety lamp until it practically ceases to be luminous, when if gas is present the flame is capped by a pale blue flame above the lamp flame. Snell made a series of exhaustive tests and found that miners afflicted with nystagmus could not see this cap until it attained a size which showed that a dangerous amount of gas was present. The bearing of this upon the safety of the mine and the men therein is obvious. At this meeting the Council of the British Medical Association conferred the Middlemore medal upon their President for his distinguished services to ophthalmology, and last year also the University of Sheffield gave him the degree of D.Sc. In addition to carrying on a large private practice, arduous hospital work, and teaching, Snell found time to write a good many books upon the diseases of, and accidents to, the eye, although he contributed but little to the medical journals. Outside his purely professional life he took great interest in education, and he served for many years as honorary secretary of the Sheffield Literary and Philosophical Society. In 1893 his secretaryship was interrupted by his being elected President, but at the end of his year of office he resumed his former post. In 1897 he was made a justice of the peace. The funeral took place on April 21st at Fulwood Cemetery.

Mr. Sinclair White, senior surgeon to the Sheffield Royal Infirmary, writes to us as follows: "The death of our colleague is a great loss to the infirmary—how great only those who were privileged to work with him can fully appreciate. For 32 years he gave lovingly and unsparingly of his valuable time and skill to the suffering poor who sought his aid, and the very commodious waiting-hall of the out-patient department was often filled to overflowing by his patients. He was a man of extraordinary energy, great courage, and transparent honesty of purpose. Anything he undertook was sure to succeed, if success was possible. An exceedingly busy man, he got through an amount of work which to many would appear incredible. This was achieved by virtue of the faculty he possessed of doing most things outright and at once. He was a man of many parts and contrived to stamp his individuality on everything he did. His ceaseless energy found outlets beyond his professional work, and there are very few Sheffield institutions that have not at one time or another benefited by his help. As an ophthalmic surgeon he took high rank. His numerous and valuable contributions to the literature of his subject gained for him a world-wide reputation. As an operator he had few equals. He appeared instinctively to know the right thing to do and did it with a celerity and delicacy of touch which stamped him as an artist in his specialty. The crowning honour of a strenuous life came less than a year ago when, on the unanimous recommendation of his local *confrères*, he was elected President of the British Medical Association. Although the shadow of his approaching fatal illness was upon him, he threw himself with his accustomed energy into the work of organising the Sheffield meeting, and it was very largely owing to his personality and the loyal coöperation he was able to inspire that the Sheffield Congress proved to be one of the most successful in the history of the Association. The rank and file of the profession found in him an ever-ready champion of their rights and will greatly miss his masterful leadership, while his immediate colleagues mourn the premature removal from their midst of one who embodied staunch loyalty, a kindly spirit, and much wisdom."

WILLIAM GABRIEL ROCKWOOD, M.D. MADRAS, M.R.C.P. LOND., M.R.C.S. ENG.

THE death is announced, on March 24th, of Dr. W. G. Rockwood, the leading Ceylonese surgeon and a practitioner well known to medical men in this country. Many of our readers will remember him at the meeting of the British Medical Association in Manchester in 1902, which he attended as the delegate of the Ceylon branch of the Association. Dr. Rockwood was born in Jaffna in the north of Ceylon in 1843 and was educated at the Vembadi Boys' School, at the Presidency College at Madras, and at the Madras Medical College. He received the Licence of this College in Medicine and Surgery in 1861 and returned to Ceylon, when he entered the Government medical service, being stationed first at Puttalarv and later at Jaffna, Hambautola, and Gampola. In 1867 he was transferred to Colombo as surgeon in charge of the General Hospital there, a post he held until 1883, and was appointed lecturer on surgery, diseases of the eye, and midwifery. In 1872 he graduated M.D. of the University of Madras. In 1884 he came to England to obtain a British qualification and in 1885 became M.R.C.P. Lond. and M.R.C.S. Eng. He then returned to Ceylon and continued his practice, which was largely of a surgical nature. In 1898 he retired from the Government service under the age-limit and that same year was appointed Tamil Member of the Ceylon Legislative Council. In this capacity he attended the coronation in 1902. At the expiration of his term of office he was reappointed for another five years but failing health compelled his retirement in 1906. The funeral took place on March 29th at the General Cemetery, Colombo, the officiant being the Rev. William Henly of St. Michael and All Angels, Polwatte. There was a very large attendance composed of members of nearly every community in the island.

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[1] THE LANCET, August 1st, 1908, p. 289.

CHARLES BELL TAYLOR, M.D. EDIN., F.R.C.S. EDIN., M.R C S. ENG.

Charles Bell Taylor, who died on April 13th in his eightieth year, was one of the best known ophthalmic surgeons in the Midlands. He was the son of a veterinary surgeon and received his medical education at the University of Edinburgh and in Paris. In 1852 he took the diploma of Member of the Royal College of Surgeons of England, and in 1867 that of Fellow of the Royal College of Surgeons of Edinburgh, having previously graduated as M.D. in 1854. He was for many years surgeon to the Nottingham and Midland Eye Infirmary, and had besides a very extensive private practice The wide experience which he thereby gained he put to great use on behalf of his fellows in the admirable clinical lectures which he used to deliver at the Nottingham Eye Infirmary. Many of these appeared in our columns between the years 1884 to 1895, one of the most valuable being that which appeared in our first volume for 1887 entitled "Eye Diseases in General Practice." These lectures were models of a simple, clear, and incisive style, and they were further illustrated with careful drawings made and engraved upon wood, for Dr. Taylor never would have a process block of any kind. His manual dexterity was very great; he preferred to operate for cataract without the use of anæsthetics, and till shortly before his death he was in full swing of ophthalmic practice. He was a man of very strong opinions, many of which ran counter to accepted medical tenets, but in all his differences of opinion he showed himself a perfectly fair as well as a very able adversary. By his death the profession loses a skilful exponent of his branch of surgery and a thoroughly able man.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Plimeus S. Conner, formerly professor of surgery in the Medical College of Ohio, Cincinnati.—Dr. Rudolf Haug, extraordinary professor of otology in the University of Munich—Dr. Robert Reyburn, professor of hygiene in the Howard University, Washington.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Surgery—H. A. Hancock (Section I.), London Hospital
Medicine—B. A. Keats (Sections I. and II.), St. Bartholomew's Hospital.
Forensic Medicine—B. A Keats, St. Bartholomew's Hospital; and S. H. Scott, London Hospital
Midwifery—L Ettinger, C. P. and S., New York, J. A. Koch, Amsterdam, R. Lamort, University of France, B. W Loewenberg, Berlin; S H. Scott, London Hospital, and T. A. P. Tyrrell, St. Mary's Hospital.

UNIVERSITY OF LIVERPOOL.—At examinations for the degrees of Bachelor of Medicine and Master of Surgery the following were successful:—

Anatomy and Physiology—H el Arculli, F Dallimore, T. B Evans, H. V. Forster, Elsie C. Hanson, H. W. Jones, R Kennon, R. H Knowles, T. H. Martin, H Nield, A. L. Oluwole, W H. Parry, H. Pierce, J. P. Rafter, H. G. Roberts, A. Seddon, and S. N. Wright.
Materia Medica.—G. S A. Bishop, F. G. F. Browne, D. H. Clarke, P. le F. Nortje, and T. O. Williams

FINAL EXAMINATION.

Part A.—A. Adams and T. O Clarke
Part B.—J. A. Donnellan, A. A. Rees, S. P. Sykes, and S. V. Tinsley.

Diplomas in Public Health have been conferred upon the following:—

C S Brewer, H. M. Cargin, Katharine R. Drinkwater, D. T. J. Glover, C. O Stallybrass, and J. Teare.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the recent examinations of the Royal Colleges of Physicians and Surgeons of Edinburgh and Faculty of Physicians and Surgeons of Glasgow for the triple qualification L R.C.P.E, L.R C S.E., and L F.P.S.G., the following candidates passed their respective examinations:—

F[illegible], A. M. Robertson, W. [illegible]
Se[illegible] Herick, C. S Owen, A. L. [illegible], F. F. Keravalla, H. R. Macnab, C. Hunter, and A Caruana
Third Professional Examination.—H F. Williams, J. Blackburn, P. Walsh, C A. O Driscoll, J. W. Robertson, D. B. Gazdar, W. Browne, E. D. Shroff, F P. Quirk, N. B. Mehta, W. M Thomson, R C. Fuller, and S N S Aizangar.
Final Examination.—D. G. Lindsay, N. D. Mehta, J. M'Call, V. G. Gokhale, H. E. Swan, and I. Pulteney.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Piper has been recognised as *privat-docent* of Physiology.—*Bologna:* Dr. Guido Piccinini has been recognised as *privat-docent* of Materia Medica and Experimental Pharmacology.—*Florence.* Dr. Ambrogio Mori has been recognised as *privat-docent* of Pædiatry.—*Gottingen:* The title of Professor has been granted to Dr. Alfred Putter, *privat-docent* of Physiology, and to Dr. Heinrich Vogt, of the Senckenberg Institute, Frankfort.—*Naples:* Dr. Emilio Ugo Fittipaldi has been recognised as *privat-docent* of Medical Chemistry.—*New York (College of Physicians and Surgeons):* Dr. William G. MacCallum, professor in the Johns Hopkins University, Baltimore, has been appointed to the chair of Pathological Anatomy in succession to Dr. T. Mitchell Pruden, resigned.—*Padua:* Dr. Carlo Molon has been recognised as *privat-docent* of Medical Pathology; Dr. Carlo Bestin as *privat-docent* of Neurology and Psychiatry; and Dr. Ugo Dall' Acqua as *privat-docent* of Operative Medicine.—*Palermo:* Dr. Gaetano Lodato of Sienna has been appointed Extraordinary Professor [illegible]: Dr. Giunio Salvi of Sassari has [illegible] Professor of Anatomy.—*Rome:* [illegible] recognised as *privat-docent* of Laryngology and Rhinology.—*Turin:* Dr. Giovanni Marzo has been recognised as *privat-docent* of Psychiatry and Dr. Rodolfo Bressanin as *privat-docent* of Ophthalmology.—*Vienna:* Dr. Samuel Jellinek has been recognised as *privat-docent* of Medicine.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—The usual monthly meeting of the executive committee of this society was held on April 16th, Dr. F. de Havilland Hall being in the chair. Mr. J. Brindley James, Dr. F. J. Allan, Dr. W. G. Dickinson, Mr. William Thomas, Dr. F. C. Martley, Mr. H. P. Symonds (Oxford), Dr. W. A. Dingle, Dr. W. Knowsley Sibley, Dr. Frederick S. Palmer, Mr. Edward Bartlett, Dr. M. Greenwood, and Dr. J. B. Ball were also present. The records of the spring are, on the whole, satisfactory. As usual at this time of the year the number of sickness claims has been large, but for the most part they have been of short duration, and the total amount disbursed in respect of them is less than in the corresponding period of last year. The committee examined the drafts of the quinquennial valuation and annual report. The business of last year was exceptionally good, and the 12 months' working has for its result a substantial increase both in the number of members and in the financial reserves of the society. The quinquennial valuation report will also be found to be good, and the committee will be enabled to recommend to the members a continuance of the payment of the liberal scale of bonus arranged for in 1904. Prospectuses and all further particulars may be obtained on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery-lane, London, W.C.

MIDWIVES ACT COMMITTEE.—The tenth meeting of the Departmental Committee appointed by the Lord President of the Council to consider the working of the Midwives Act was held at the Privy Council Office on April 28th, Mr. Almeric W. FitzRoy, the clerk of the Council, presiding. The following witnesses attended and gave evidence:—Miss K. Stephenson, honorary secretary of the Wiltshire County Nursing Association; Miss Lilian Trendell, certified midwife, lately inspector of midwives for the county council and county superintendent of the county Nursing Association in Herefordshire; Mrs. Elizabeth Miles, certified midwife, Hertford; Miss Alice Gregory, certified midwife, honorary secretary and district superintendent of the Home for Mothers and Babies and Training School for

William Collins differed from his colleagues in regard to the authority which should maintain the ambulance service. They *proposed to confer the duty* on the Metropolitan Asylums Board, whilst he was anxious that the London County Council should undertake the work.

HOUSE OF COMMONS.

Wednesday, April 21st.

The Sale of Disinfectants.

Mr. Rees asked the President of the Local Government Board whether, in view of the promise made by him in June, 1907, and the statement of Professor Hewlett in the recent Milroy lectures before the Royal College of Physicians of London to the effect that during the years 1905, 1906, and 1907 28,000 gallons, 37,000 gallons, and 66,000 gallons of liquid were sold as disinfectant under the Privy Council Order of July 31st, 19[illegible] colourmen were prohibited from sellin[illegible] han 3 per cent. of carbolic acid, the [illegible] authorities all agreed, was to place [illegible] inefficiency, he would now state what steps he contemplated taking to remedy this evil.—Mr. Masterman (on behalf of Mr. Burns) replied: *My right honourable friend is not empowered to fix standards of disinfectants* and it does not appear to him that he could usefully take action in the matter. I may add that there is little public advantage in the domestic use of disinfectants as deodorants. Where they are employed to remove infection, they are commonly employed under the advice of a medical officer of health, or other medical man, who would be trusted to order disinfectants which are efficient.

Accidents in Mines.

Mr. Glover asked the Secretary of State for the Home Department whether he could state the number of serious accidents reported to the inspectors of mines during the years 1903, 1904, 1905, 1906, 1907, and 1908, and the number of non-serious accidents during 1908.—Mr. Gladstone furnished the following written reply: The figures of fatal and non-fatal accidents reported to the inspectors of mines during the years mentioned are as follows:—

Number of Fatal Accidents Reported.

Year.	Coal mines.	Metalliferous mines.	Quarries.	Total.
1903	1036	25	90	1151
1904	1017	31	110	1158
1905	963	43	97	1103
1906	1065	33	92	1190
1907	1162	33	88	1283
1908	1137	36	90	1263

Number of Non-fatal Accidents Reported.

Year.	Coal mines.	Metalliferous mines.	Quarries.	Total.
1903	3606	250	1373	5229
1904	3512	232	1278	5022
1905	3380	245	1193	4818
1906	3592	214	1337	5143
1907	5599	281	1459	7339
1908	5588	247	1515	7350

The figures for the year 1908 are preliminary and are subject to correction. The totals of fatal and non-fatal accidents reported were: 1903, 6380; 1904, 6180; 1905, 5921; 1906, 6333; 1907, 8622; and 1908, 8613. I have no information as to non-serious accidents in 1908. I should point out, as regards the figures of non-fatal accidents, that in the case of certain classes of accidents (e.g., accidents caused by explosion of gas or dust, or any explosive, &c.), all are required to be reported, whether causing serious injury or not, and also that the requirement as to reporting non-fatal accidents was extended by the Notice of Accidents Act, 1906, so that the figures for the last two years are not comparable with those for the preceding years.

Thursday, April 22nd.

Inquests in County Dublin.

Mr. Patrick O'Brien asked the Chief Secretary to the Lord Lieutenant for Ireland in what circumstances two inquests were recently held by the coroner for the southern division of the county of Dublin in licensed premises in Ranelagh, *having regard to the fact* that the Rathmines urban district council a few years ago erected a morgue on a site at the rear of the town hall, with the express view of putting a stop to the practice.—Mr. Birrell answered: I am informed by the coroner that in both cases the inquest was held in licensed premises because the circumstances were such as to render it advisable to have the body viewed in the place and position in which death occurred. Had the inquest been held in the Rathmines morgue, the jury would have had a considerable distance to walk to view the body which would have caused them great inconvenience and considerable delay. The coroner adds that the Rathmines morgue is a great advantage to the district and that he always avails himself of it when circumstances permit him to do so.

Unvaccinated Children in Schools.

Sir Maurice Levy asked the President of the Board of Education whether the managers of endowed schools, either of schools assisted out of the rates or [illegible] refuse admission to [illegible] nated condition [illegible] power to exclu[illegible] admission, solely on the ground of his [illegible] and, in the event of the managers having such power, whether he would add a clause to the next Bill dealing with educational matters which would remove such a disability from unvaccinated children.—Mr. Runciman (by written answer) replied: *I am advised that* governors of endowed schools regulated by schemes made under the Endowed Schools Acts and Charitable Trusts Acts are not as a rule prohibited by the scheme from excluding an unvaccinated child if they consider that so to do would promote the welfare of their trust But in the case of schools, whether endowed or not, which receive grants from the Board under their secondary school regulations, the Board would not regard the absence of vaccination as a reasonable ground for the exclusion of a day pupil, though they would be unwilling to interfere with the discretion of the governors in the case of boarders.

The Medical Inspection of School Children.

In the course of a debate on the Civil Service Estimates, Colonel Lockwood asked the President of the Board of Education whether there was any prospect of relief being granted in the counties in connexion with the medical inspection of school children.—Mr. Runciman replied: That is not a matter on which I am authorised to say anything at the present moment. A deputation waited on the Prime Minister recently, and his reply is the latest Government utterance upon the subject.

Friday, April 23rd.

Education (Administrative Provisions) Bill.

Mr. A. E. Dunn moved the second reading of the Education (Administrative Provisions) Bill. He said that by passing into law the Education (Provision of Meals) Act, 1906, the House had already approved in the most emphatic manner of the principle of feeding underfed school children, and therefore it was undesirable to go into the general question at the present time. However, in order properly to understand the matter with which this Bill dealt it was necessary to recall the fact that recently an Act of Parliament had provided for the medical inspection of school children. Now, the Bill which he submitted to the House provided, first of all, for the inspection of school children with a view to ascertain what children in the school, if any, attended in an underfed condition. It did not rest with the medical inspector to move in the first instance. The Bill dealt very gently with the local authorities in this respect. It empowered three classes of persons to set the inspector in motion. Clause 1 declared that the education committee or a majority of the managers of the school or the head teacher might request the inspector to make an inspection. Clause 2 provided that when that medical inspector had made his report, and if that report stated that there were children in the schools underfed, then it should be the duty of the local authority to feed the children. That was practically in substance the whole of the provisions of this particular Bill. There were one or two minor matters referred to in it. Under the existing law there was a limit to a halfpenny rate for the purpose of feeding school children, but under the Bill, if it was found that to feed the children a halfpenny rate was not sufficient, then that halfpenny must become more. Another useful and important provision was that the medical inspector should annually make a general report as to the condition of the scholars in a school. Surely that would be an exceedingly useful report, and he was quite sure that the education authorities would find it so. It was proposed that the report should be open to the inspection of the ratepayers generally. He contended that in making the proposals contained in the Bill he had in no ways forgotten the undoubted powers of the local education authorities. He admitted that if all local education authorities had acted as the majority of them had there would be no need for the Bill, but the House in this case had to legislate to bring the minority up to the mark. All that he now asked was that the House should confirm the principle of the Bill. That principle was that it was desirable that those children going to school in the large cities—and some of the large cities were the chief offenders—should receive proper nourishment to be in a condition to benefit from the teaching and consequently should have a chance of becoming good citizens.

Mr. Tyson Wilson, in supporting the second reading, said that during the past winter the London County Council had fed 54,000 underfed children, and the standard it adopted was exceedingly low. *If a fair standard* had been adopted the number of children fed would have been practically double what it was. Therefore there must be some other power than that of the education authority if the children were to be fed.

Sir Francis Powell, in moving the rejection of the Bill, said that he had served on the Select Committee dealing with the question of underfed children in 1906 There never was an investigation more complete. Now, the first consideration which occurred to him was the extreme haste with which honourable Members were now pressing this extending Bill on the consideration of the House. He found in the report of the Board of Education a remark that the legislation on this subject had been in force for so short a period that it had not had sufficient experience to make remarks upon it. The majority of local education authorities had been doing their best to carry out the medical inspection of children. In his opinion, it was premature to interfere with the Act. He argued that the tendency of the Bill would be to check voluntary effort and would diminish parental responsibility.

Viscount Morpeth seconded the motion for the rejection. He said that he opposed the Bill because he believed that discretion ought rightly to be placed on the local authority. If there was to be a discretion, surely it would be more properly vested in the hands of a local authority than in the hands of a single medical man. Although he had the highest respect for the medical profession, he thought it would be a dangerous step to give them full control and power in this matter without check by the common-sense of laymen, whose decision should always be final. Clause 2 provided that "the medical inspector must thereupon report his decision to the local education authority." That was to say that his decision was to be final and binding. Under those circumstances surely it was a misnomer to call the local authority an authority, because it had no authority at all in the matter.

Sir William Collins said that he was inclined to share the view that the Bill would *not add to the dignity of the medical profession* if the

[illegible]

ceived, and might require, not only administrative, but legislative changes The questions of the feeding of school children and medical inspection hung together, and the House of Commons ought not to be asked to amend legislation passed so recently as 1906 and 1907 without far larger inquiries than had hitherto taken place He asked honourable Members to remember that they ought to be guided,

[illegible]

voluntary work.

Mr. RUNCIMAN (the President of the Board of Education), replying to the debate at a subsequent stage, said the proposals in this Bill might well be discussed on their merits. It had been introduced with the

[illegible]

provision of food not only throughout the school days but throughout the holidays. That would not be educational advancement but Poor-law relief. Under Clause 2 the medical officer had to determine whether a child was insufficiently or improperly fed There was no provision as to who the medical officer was to be, but not only he, but also the head teacher, was to undertake this duty. The head teacher was apparently to have a sum of money in his hands to disburse for the provision of food in certain cases. That

[illegible]

lent being overridden well-devised piece of his assent. On the that during the last ad great difficulties no knew the fear of local authorities that medical inspection would become costly. Much of that fear was grossly exaggerated. He had sometimes had estimates sent to him—they were purely estimates and nothing else—which ran the cost up to 5s. per child He

[illegible]

House add more to the conflict and confusion which already embarrassed Poor-law reformers. He was afraid, therefore, that he could not support the Bill which he believed would do harm in present circumstances. Honourable Members should leave to local public opinion and to local authorities the reasonable liberty which they had under the Act of 1906 and under which on the whole they had acted well.

On a division the Bill was rejected by 206 votes to 82.

MONDAY, APRIL 26TH.

Uncertified Deaths in Ross-shire and Inverness-shire.

[illegible]

taken without legislation, which is not at present in contemplation by the Government.

Scottish Poor-law Medical Officers.

[illegible]

TUESDAY, APRIL 27TH.

Children and Public-houses.

[illegible]

Mr. GLADSTONE) replied The Se

called to this matter. Merely to keep a young child at the door of a public-house would not in itself amount to cruelty but it might be

[illegible]

the subject.

Confinements in Prison.

Mr. SNOWDEN asked the Secretary of State for the Home Department how many births took place in prisons in England and Wales during the years 1907-08, how many women were released during the same period from prison on account of their approaching confinement; and whether the birth

Mr GLADSTONE (by wr

prison in the year 1907

before the termination

[illegible]

WEDNESDAY, APRIL 28TH.

The Sleeping Sickness in East Africa.

Mr. REES asked the Under Secretary of State for the Colonies what steps had been taken under the agreement and protocol between England and Germany with regard to sleeping sickness to preserve Nyassaland from this disease—Colonel SEELY replied: The agreement in question related only to Uganda and German East Africa. So far as Nyassaland is concerned, I am glad to say that the extensive investigations which are being made in the Protectorate have failed, up to the present time, to reveal the presence of the tsetse fly which transmits the disease These investigations will be continued, but there is good reason to hope that Nyassaland is not exposed to the risk of an epidemic similar to that which has wrought such havoc in Uganda.

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Text-book of Nervous Diseases and Psychiatry. By Charles L. Dana, A.M., M.D., LL.D. Seventh edition. Price not stated.

Practical Physiological Chemistry. By Philip B. Hawk, M.S., Ph.D. Price 16s. net.

COLLINGRIDGE, W. H. AND L., London.

Lawns and Greens: Their Formation and Management. By T. W. Sanders, F.L.S., F.R.H.S. Price 1s. net.

tonic, but we trust that the West-end chemist who is the repository of this therapeutic treasure will second Mr. Bodkin's laudable reticence and not divulge the secret of a remedy which will add another terror to the perplexities of the medical referees of insurance companies, however great the temptation to launch a new patent medicine on the public. Yet it would be interesting to hear whether the latest elixir of health masked a murmur in Harcourt's aortic valves or merely abstracted some albumin from his urine.

A CURIOUS ACCIDENT.

A correspondent (a medical man) sends us an account of a curious accident which occurred recently on golf links in the south of England. A player whilst in the act of striking a ball managed to swallow "a quarter of a lighted cigarette" with no ill-effects. The eating of lighted candles, made, we believe, of apples with "wicks" cut out of almonds and soaked in oil, was a favourite performance of old-fashioned conjurers, and the consumption of chocolate cigarettes is doubtless still practised by the young. But the swallowing of lighted tobacco is not so safe a performance, and we congratulate the golfer on having taken no harm. Considering the concentration, both muscular and mental, with which some golfers make their drives, and the frequency with which they balance lighted cigarette ends between their lips while striking, we can conceive that this is not the first time that the accident has occurred.

AXILLARY AND RECTAL TEMPERATURES IN NEUROTIC SUBJECTS.

From a series of observations made by M. Erlandsen, a pupil of Professor Gram of Copenhagen, it would appear that there is no greater difference between the axillary and rectal temperatures in hysterical and other neurotic subjects than that which ordinarily obtains in healthy persons. This increase of difference was suggested by Dr. Hallager, a Danish physician, some years ago as an aid to diagnosis, and Professor Gram felt anxious that the value of the so-called Hallager's sign should be tested. M. Erlandsen therefore examined 89 patients suffering from hysteria, neurasthenia, traumatic neurosis, paralysis agitans, sciatica, chorea, and exophthalmic goitre, with great care and extremely sensitive thermometers. One of the first things that struck him was that a higher reading was obtained when the thermometer was inserted in the rectum to a depth of three centimetres, when the bulb was grasped by the external sphincter, than when it was inserted to a depth of seven or eight centimetres. The lowest difference between rectal and axillary temperatures was 0·12° F. and the highest 0·32° F., the mean being 0·14° F. There was only a small difference in persons having a rigid perineum—e.g., children, virgins, and adult men, the maximum occurring in multipara. In the 89 pathological cases M. Erlandsen found, when he took the observations himself, that there was a mean difference between the axillary and rectal temperatures of 0·68° F., which figure agrees fairly well with those given by different authorities, which vary from 0·77° to 0·93° F. Another rather important point is mentioned, and that is, that in fat subjects there is more difference than in thin persons between the axillary and rectal temperature, the reason being, according to M. Erlandsen, that the axillary space in fat persons is more isolated from the central parts of the body by the layer of adipose tissue being thicker. Be the explanation what it may, he found by dividing his subjects into three classes—fat, medium, and thin—that the mean differences between the axillary and rectal temperatures were 0·918°, 0·65°, and 0·59° in the three cases respectively. M. Erlandsen's original paper appeared in *Hospitalstidende* for Nov. 25th, 1908.

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R.A.M.C. points out that in the various advertisements of German "Cure Establishments" and Medical Institutes the tariff for baths and residence is never mentioned. He has found that in one well-known German spa at least the rates are very high, and inquires whether there are any such institutions offering a tariff comparable to the lower prices of English "hydros." It must be remembered that the treatment at such foreign institutions is of a special kind, and that the majority of people who proceed abroad for "cures" belong to the well-to-do classes. Both of these circumstances naturally tend to keep the level of continental "cure-house" charges at a high average, but we should be glad to hear of any properly vouched for establishments offering specially moderate terms which may be of interest to our correspondent and to other medical men.

Moribund has raised an interesting point with which we will deal in an early issue.

Communications not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Leeds Mercury, Jersey Evening Post, Liverpool Express, Weekly Despatch, Dundee Advertiser, Evening News, Newcastle Journal, Daily News, Northern Daily Mail, Birmingham Post, Edinburgh Evening Despatch, Glasgow Herald, Dublin Times, Midland Evening News, Walsall Advertiser, Yorkshire Observer, Birmingham Despatch, Aberdeen Evening Express, Morning Advertiser, Nottingham Guardian, &c.*

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

Tuesday.

Therapeutical and Pharmacological Section (Hon. Secretaries—J. Gray Duncanson, H. Charles Cameron): at 4.30 p.m.

Paper:

Dr. Hale White and Dr. Eyre: Vaccine Treatment.

Friday.

Laryngological Section (Hon. Secretaries—George C. Cathcart, Atwood Thorne): at 5 p.m.

Dr. Dundas Grant: Two Cases.

Dr. Donelan: (1) Laryngeal Tuberculosis in a Man aged 43; (2) Deflection of Septum in a Boy aged 13: Question of Resec- [illegible] the Left Sphenoidal [illegible] cal Cord, of Intermittent Occurrence, in a Man aged 40.

And other Cases.

Saturday.

Otological Section (Hon. Secretaries—W. H. Kelson, Hunter F. Tod): at 10 a.m.

Cases and Specimens:

Mr. O. C. West: Further notes on Case of Carcinoma of the Ear.

Dr. Adolph Bronner: Cholesteatoma of the Ear treated with Enzymol.

Mr. R. Lake: Case of Epileptiform Attacks of Labyrinthine Origin, and Other Cases.

Mr. Hunter Tod and Mr. A. L. Whitehead will also show Cases and Specimens.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos-street, Cavendish-square, W.

Thursday.—8 p.m., Card Specimens will be shown by Major R. H. Elliot, I.M.S., Mr. S. Stephenson, Mr. G. W. Roll, and others. 8 30 p.m., Dr. G. Carpenter: A Short Note on Tubercle of the Choroid with an Account of a Recent Case.—Mr. M. Davidson and Mr. A. Lawson: A Case of Spring Catarrh Treated and Cured by Radium.—Mr. R. R. Cruise: The Abuse of Atropin in Refraction Work.—Mr. S. Mayou: On the Disappearance of the Iris from the Papillary Area following Injury.—Mr. W. H. H. Jessop: The Report of the International Committee on the Unification of the Notation of Visual Acuity and of the Meridians of Astigmatism.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.

Thursday.—4.15 p.m., Clinical Cases.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, Hammersmith-road, W.

Friday.—8 30 p.m., Dr. S. A. Bontor: The State Regulation of Marriage.—Mr. B. Harman: A New Test for Vision, the Diaphragm Test.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

Friday.—5 p.m., Prof. Keith: On Specimens illustrating Malformations of the Neck. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

Monday.—4 p.m., Dr. W. Evans: Clinique (Skin). 5.15 p.m., Lecture.—Dr. E. Cautley: The Treatment of Broncho-Pneumonia.

Tuesday.—4 p.m., Sir W. Gowers: Clinique (Medical). 5 15 p.m., Lecture:—Dr. G. Pernet: Feigned Eruptions.

Wednesday.—4 p.m., Mr. J. Cantlie. Clinique (Surgical). 5 15 p.m., Lecture: Mr. Bland-Sutton: The Baneful Effects of Pregnancy on Uterine Fibroids.

Thursday.—4 p.m., Sir Jonathan Hutchinson: Clinique (Surgical) 5.15 p.m., Lecture:—Dr. G. H. Savage: The Feeble-minded and their Care.

Friday.—4 p.m., Mr. S. Stephenson: Clinique (Eye).

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

Monday.—Clinics—10 a.m., Surgical Out-patient (Mr. H. Evans). 2.30 p.m., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 p.m., Medical In-patient (Dr. A. J. Whiting).

Tuesday.—Clinic. 10 a.m., Medical Out-patient (Dr. A. G. Auld). 2.30 p.m., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr W Edmunds) Gynæcological (Dr. A. E. Giles).

Wednesday.—Clinics—2.30 p.m., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

Thursday.—2.30 p.m., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson), X Rays. 3 p.m., Medical In-patient (Dr. G. P. Chappel).

Friday.—10 a.m., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 p.m., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 p.m., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

Monday.—2 p.m., Operations. 2.15 p.m., Sir Dyce Duckworth: Medicine. 3.15 p.m., Mr. Turner: Surgery. 4 p.m., Mr. G. N. Biggs. Ear and Throat. Out-patient Demonstrations:—10 a.m., Surgical and Medical. 12 noon, Ear and Throat.

Out-patient
12 noon, Skin.
nonstrations:—

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck street, W.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3 45 P.M., Lecture —Dr. A. Wylie · Larynx.
FRIDAY.—3.45 P.M., Lecture —Dr A Wylie: Larynx

OPERATIONS.

Ormond street (9 A.M. and 9 30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1 30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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(Taken daily at 8 30 a m by Steward's Instruments.)

THE LANCET Office, April 29th, 1909.

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain fall	Solar Radio in Vacuo	Maximum Temp. Shade	Min Temp.	Wet Bulb	Dry Bulb	Remarks.
April 23	29 76	S.W.	0 13	103	62	43	50	54	Cloudy
" 24	29 59	S W.	0 12	103	63	50	53	55	Cloudy
" 25	29 71	S W	..	121	59	46	47	56	Cloudy
" 26	29 75	S.W.		121	64	46	50	55	Fine
" 27	29 66	S.W.	0 08	103	57	50	50	53	Cloudy
" 28	30 00	W.	0 37	116	62	45	48	50	Cloudy
" 29	29 59	W.	0·02	116	66	43	45	47	Cloudy

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ON

RHEUMATIC FEVER AND VALVULAR DISEASE.

Delivered before the Royal College of Physicians of London on March 23rd, 25th, and 30th, 1909,

BY NORMAN MOORE, M.D. CANTAB., F.R.C.P. LOND.,

SENIOR CENSOR OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON; PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

LECTURE III.[1]

Delivered on March 30th.

PROGNOSIS AND TREATMENT.

MR. PRESIDENT, CENSORS, AND FELLOWS OF THE COLLEGE,—The book called Προγνωστικόν in the Hippocratic writings seems at its beginning to promise to treat its subject in the widest sense in which the word can be used. *τὸν ἰητρὸν δοκέει μοι ἄριστον εἶναι πρόνοιαν ἐπιτηδεύειν.* "He seems to me to be the best physician who knows how to know beforehand what will happen." "He will treat diseases best when he shall be able from knowledge of the patient's actual state to foresee the condition of the future." These are sentences of the preamble, but as the book goes on the subject is restricted to acute diseases and to a discussion of the interpretation of symptoms, not as bearing on particular maladies, but of the meaning of symptoms in relation to all forms of acute disease. The famous passage on the Facies Hippocratica occurs in this book, and, well known as it is, I will venture to quote it, since it is a perfect illustration of how the Prognosticon deals with its subject:—

> [illegible] yellow, or black, or livid, or leaden. If from the onset of the disease the countenance shows these [illegible] not furnish sufficient suggesti[illegible] hath long watched, if he has l[illegible] [illegible] f the patient remembers no such cause [illegible] to an end within that time it must be [illegible]

Gnashing of teeth, movement of the hands, rapid breathing, sweats, the state of the hypochondrium, pulsations in the [illegible] the hands and feet, sleep, [illegible], vomiting, expectoration, [illegible] in the head, sore throat, returns of fever—all these are discussed in their most general application to acute disease. The only special application to any single morbid condition is in the remarks on pneumonia and empyema. I may mention incidentally, because I do not remember to have noticed that it is pointed out in [illegible] as that [illegible] ttempt [illegible] good or evil of particular symptoms. At the present day the word *prognosis*, I observe, *generally suggests to the practiser or* student of medicine a single inquiry and no more. Will the patient live or die? A sounder use of the word is to include under it the whole probable future of the disease after the diagnosis has been made in each particular case. The constant practice of such a way of considering each case is certainly to the advantage of the patient, for it cannot but have an important effect upon his treatment. It is in this sense that I propose to apply myself to the consideration of the prognosis of rheumatic fever and of valvular disease.

The first question to be discussed is the duration of rheumatic fever. How long does the organism continue to live on in the endocardium? Does it after an attack die out of its condition of *multiplication, so that we can say the* disease is absolutely at an end, as does the pneumococcus of pneumonia? Or does it, like the tubercle bacillus, live on indefinitely in the body, maintaining its lodgment, for a time n[illegible] nd doing more injury, [illegible] first ten cases you m[illegible] they throw on this question?

A girl, aged six years, had rheumatic fever in September, 1905, and was in St. Bartholomew's Hospital for six weeks. She came in again in December, 1905, for six weeks. She was an out-patient for six months for her consequent valvular disease, mitral regurgitation, and [illegible] t pain. Then came [illegible] ust, 1907, onwards, [illegible] fever and was re-[illegible]

Is not the appearance of such a case as regards its lasting but intermitting effects very like one of tuberculosis? Would anyone doubt with such a history of manifestations in a case of tuberculosis that the whole was due to the effects of the original settlement of bacilli in the body? Would the intermission of raised temperature and of other symptoms from August to December in the second year give rise to any doubt *on the subject of the whole being one attack of tuberculosis?*

A woman, aged 24 years, had well-marked rheumatic fever in July, 1903; in March, 1908, she had had an attack and had had one in 1904.

Supposing this patient had had hæmoptysis in 1904 and well-marked pulmonary symptoms in March and July, 1908, should we not have expected to find tubercle bacilli in her sputa in July, 1908, and should we not be certain that her illness began in 1904?

A woman, aged 25 years, who came into St. Bartholomew's on account of palpitation and shortness of breath in January, 1908, had [illegible]

If this patient had had dysentery in India in 1899, had got over it and had returned to England, and had been admitted to the hospital in 1904 with a chronic diarrhœa, with blood and mucus discharged from the bowel, and after treatment had got well and left and had come back again in October, 1906, with a similar diarrhœa, and if after seeming to recover she had now and then passed a little blood and mucus, would not much the most probable explanation be that her Indian infection was the cause of all the prolonged symptoms and that if she died we should find imperfectly healed old ulceration with scar tissue near it in the large intestine? Should we not venture to state as we went round the ward that that anatomical change was then present in her intestine and that the whole dated from her attack of dysentery in India in 1899?

A woman, aged 24 years, was admitted to one of my wards on Oct 3rd, 1903, with rheumatic fever, of which the pains had begun on Sept. 21st. The pain and swelling of joints were well marked and she had mitral regurgitation. In 1900 she had chorea which lasted for seven months.

Might not this case be compared to that of a patient who had an attack of pleurisy on the left side, the nature of which was undetermined at the age of 16 years, and who had developed well-marked tuberculosis of the lung on the left side at the age of 24 years? Would it not be possible that the original infection had remained, that the pleurisy was due to a settlement of the tubercle bacillus which had since been so inactive as to produce no symptoms noticed by the patient, and which in 1908 under some favouring circumstances had been able to grow and produce the tuberculosis? If the original pleurisy had been shown to be tuberculous should we not at once admit that the tubercle of the lung eight years later was a probable development of the same infection? I have chosen this comparison because while we cannot be certain that an attack of chorea which we have not witnessed was of the variety which undoubtedly belongs to the series of phenomena of rheumatic fever, the presumption is strong that any chorea which occurred in the early life of a young patient with rheumatic fever was of that variety.

A woman, aged 24 years, was admitted to hospital on July 8th, 1903, [illegible]

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[1] Lectures I. and II. were published in THE LANCET of April 24th (p. 1159) and May 1st (p. 1227), 1909, respectively.

No. 4471.

In the absence of an exact history of each attack and of the intervals we can only apply our knowledge of the frequency with which some pains appear between serious attacks, and the probability seems to be that this was one long period of rheumatic fever—that is, not of continuous fever, but of continuous disease due to the original infection, and to the constant presence of the organism to which rheumatic fever may be believed to be due.

A woman, aged 18 years, was admitted to hospital with rheumatic fever on August 24th, 1903. She had mitral obstruction and regurgitation. She had been admitted on three previous occasions with rheumatic fever and had thus had it under observation in 1893, 1900, 1902, and 1903.

Here again, if the analogy of tuberculosis has any force it may be applied to enable us to accept the probability that a particular organism was present in her system, probably in her endocardium, for ten years.

A boy, aged 16 years, was admitted to hospital on April 24th, 1907, with rheumatic fever. He had at the time mitral regurgitation and aortic obstruction and regurgitation. In 1896, when aged five years, he was in bed for six months with rheumatic fever; in 1897 he had chorea for seven weeks; in 1898 rheumatic fever; in 1899 rheumatic fever for eight weeks, and in 1904 another attack.

Supposing this boy had acquired the hæmatozoon of tertian ague in a malarious region in 1896 and had soon after moved to a healthy part of England we should have had no difficulty in believing that a recurring tertian fever was due to the parasite. I have myself observed a case in which a tertian ague continued at intervals for nine years, and have read of longer liability to the fever. The possibility of obtaining the hæmatozoon from the blood of course supplies a test of the continuity which must be absent while the micro-organism of rheumatic fever is unknown.

A boy, aged 12 years, was admitted to hospital with rheumatic fever in January, 1907. He had mitral regurgitation. In the summer of 1903 he had had an attack of rheumatic fever and since had had pains in his joints with fever at intervals.

A boy, aged 11 years, was admitted to hospital with rheumatic fever and had mitral regurgitation. His present attack seemed to have begun on Nov. 1st, 1906, and he had a similar attack three years before.

A boy, aged nine years, was admitted to hospital with rheumatic fever on Sept. 24th, 1904. He had disease of both mitral and aortic valves. In 1903 he was in the hospital with rheumatic fever for nine weeks and was readmitted in May, 1904, and was under observation till the beginning of August.

The history in this last case for more than a year was nearly continuous, and in this, as in the former two, the analogy of a development of the tubercle bacillus may be used to explain the course of a disease dependent on the organism of rheumatic fever.

It would, of course, be easy to mention many more such cases, but I have perhaps said enough to satisfy you that there is nothing unlikely in the view that the several attacks of rheumatic fever from which so many patients suffer are really successive developments of an organism which remains in the endocardium throughout the series of attacks. Thus, using the word rheumatic fever for the condition present when this organism is in the system, whether developed or in a potential state of development, I arrive at the conclusion that rheumatic fever has a variable duration. It sometimes, though rarely, lasts two months and no more. It frequently lasts from three to ten years and may last longer still. A short attack is more probable after 30 years of age than before. A long attack is most likely to occur when the disease begins in early childhood.

The answer to the question whether the patient will live or die in the first attack must, of course, be that he will not die in it. The cases of death said to be due to a first attack of rheumatic fever are generally diminished in number when minutely examined. Thus, a woman, aged 26 years, in St. Bartholomew's Hospital, under the care of the late Dr. Reginald Southey, had a loud systolic murmur, plainest at the apex, and some swelling of the right knee and fever. She had been ill for seven days, and she died three days later. It was supposed that she had rheumatic fever, but the post-mortem appearances seemed inconsistent with this view, though the endocardium was affected, and there were no signs of ulcerative endocarditis. The pericardium was adherent and in one part was calcified. The whole heart was dilated. The endocardium of the right auricle showed 18 small white specks, circular and encircled by an area of engorgement. These seemed on microscopic examination to be localised hæmorrhages of old standing, but what their nature was not discovered. There were 250 in the right ventricle, some in the left auricle, and many in the left ventricle. The valves had no such specks on them, nor had they any recent growths on them, though both the tricuspid and the mitral were incompetent. There was a small patch of recent lymph on the wall of the left auricle. The peritoneal surface of the intestines, the kidneys, and the liver contained similar specks, and it seemed possible that the disease was, in fact, a pyæmia, and that these were minute abscesses of various dates. As the post-mortem examination was made in 1879 the test of cultivation was not used.

That the illness beginning with a first attack of rheumatic fever will ultimately by the way of valvular disease be the cause of death is true of a large percentage of cases. In a smaller percentage the valvular disease, while not itself the immediate cause of death, is a chief contributing cause in some such acute disease as pneumonia. In another group of cases of valvular disease descended from an attack of rheumatic fever, a pericarditis perhaps of the same infection, perhaps of a pneumococcus or other organism, is the cause of death. In a small percentage again the rheumatic fever is a remote cause of death, since it has prepared the endocardium to receive the infection of ulcerative endocarditis or of influenza. In ten cases of ulcerative endocarditis an endocardium damaged in long past attacks of rheumatic fever was found in five. Thus rheumatic fever must be regarded as leading to a large sacrifice of life in at least four different ways of death. Will the endocarditis certainly leave permanent damage to some valve or valves? To this the answer is that a small percentage of patients receive no permanent damage, that a further small percentage receive damage, the signs of which after a lapse of time disappear, but that a large proportion of patients do acquire permanent valvular disease. It must be added that the proportion of cases which do not end in permanent valvular disease may certainly be increased by judicious treatment, just as judicious treatment diminishes the mortality in enteric fever, and that the commonest cause of a further continuance of the disease is letting the patient get up too soon.

The true result of an attack of rheumatic fever on the valves of the heart cannot be determined till after the patient has been up and about for some time and the tone of the myocardium has been completely restored. The injury to the valves may then prove to be much less than was before expected, and now and then it may prove to be unexpectedly greater. The valvular damage can as a rule be accurately determined three months after the patient's convalescence. The commonest valvular lesion after rheumatic fever is mitral regurgitation. The more often the febrile attacks are repeated the greater will be the degree of injury to the valves. In every case of rheumatic fever it is safe to predict that there will be no permanent damage to the joints. These are the chief points in the prognosis of rheumatic fever itself.

The prognosis of the several forms of valvular disease may properly begin with the general statement that death in mitral disease tends to occur gradually with long-preceding dropsy, and that in aortic disease, while the same method of termination may occur, there is also the permanent risk of a sudden termination of life.

The post-mortem appearances of the heart in cases of gradual death from valvular disease show that it is the enfeebled or degenerate condition of the myocardium which is the cause of the general dropsy and of the patient's death. The post-mortem appearances in cases of sudden death with disease of the aortic valves sometimes include a degenerate myocardium but in other cases show muscular tissue in which degeneration has not begun.

The temporary recovery which patients make from a condition of cardiac embarrassment, even if associated with extensive general dropsy, shows that an enfeebled myocardium may attain strength again and be able for some time longer to do its work. If at the supposed end of an attack of rheumatic fever a patient is left with distinct mitral regurgitation what will be the effect of that lesion upon his physical future and in what ways is that future affected? The first danger before him is that endocarditis is merely dormant, a danger to be met only by taking the fullest pains to ascertain that the attack is at an end. Further, rheumatic fever always means increased injury to the first affected valve with the possibility of injury to other valves. Let us suppose that no further endocarditis occurs. The imperfection in the circulation caused by the damaged valve is likely to be remedied by hypertrophy of the parts of the myocardium affected, of which the left ventricle is part. The apex beat, therefore, is found lower down and further to the left than in a normal heart. The degree of hypertrophy of course depends on the difficulties to be overcome. To what extent will it go?

The heaviest heart due to mitral regurgitation alone which I have myself met with post mortem weighed 22 ounces. It was that of a man, aged 20 years, who had no chronic interstitial nephritis and no adherent pericardium or other valvular lesion than mitral regurgitation. The degree of hypertrophy in a man does not often make the heart exceed 16 ounces in cases of mitral regurgitation. A patient, aged 12 years, with mitral regurgitation may in the course of from six to eight years attain such a good working heart that he only feels the presence of the valvular lesion after great exertion. Alcohol will sometimes relieve the cardiac uneasiness which he feels after fatigue, and I have seen a few cases of chronic alcoholism which seemed traceable to the endeavour thus to overcome the sensations produced by an overworked heart with mitral regurgitation. The heart that has accommodated itself in course of years to a considerable mitral regurgitation will go on working well for years, and even into old age if it be not affected by fresh endocarditis of any kind and is not exposed to unfavourable conditions, of which too great physical exertion and prolonged mental distress or anxiety are the most important, and the next in importance such diseases as pneumonia and influenza. These are particularly dangerous to such hearts in two ways—the pneumococcus or the bacillus of influenza may attack the old damaged endocardium or they may originate pericarditis; and in either condition, besides the embarrassment due to it, considerable enfeeblement or further change in the myocardium must be expected and generally occurs. In this way such an attack is often fatal. Over-physical exertion seems to strain the muscular tissue and thus leads to great irregularity in the action of the heart, but rest and treatment may restore the heart to its former condition. Prolonged mental distress seems to have even a more severe effect on the condition of such a heart than too great physical exertion, and the restoration in such cases is often a matter of extreme difficulty. The condition of the heart seems directly traceable to the disturbance of the mind or of the feelings, and as the illness goes on with these unrelieved the condition of the heart itself seems to react on the mental state and to aggravate it. Such patients sometimes recover very slowly; sometimes the natural ultimate failure of a damaged heart seems hastened and they die from dropsy, but I have seen several in whom an attack of pericarditis—not extensive or with great effusion—terminated life.

In mitral regurgitation aches are occasionally felt in the heart wall, not confined to one spot but extending from base to apex. Very severe spasmodic pain is also sometimes felt which might be mistaken for angina pectoris, but when watched is seen to be different, in that it lasts a much [illegible] rs, and does not give any sense [illegible] h. The occurrence of simple [illegible] gia due to such an embolus are [illegible] of mitral regurgitation as also of aortic valvular disease and add further to the long list of the consequences of rheumatic fever.

If instead of merely allowing regurgitation the mitral orifice is greatly narrowed by adhesion of the flaps of the valve to one another, so that there is well-marked mitral stenosis, the patient will have a still less easy life, more palpitations, a more frequent sense of cardiac irregularity, and less power of work, and will altogether be in a more distressing condition, and one in which there are fewer possibilities of improvement by way of hypertrophy or in any way. The patient with mitral regurgitation, as we all know, may often live to old age; the patient with mitral stenosis very rarely indeed. The narrower the orifice the fewer will be the patient's years. The heart may be capable of very nearly regular action in a few cases, but even in these very little extra exertion is sufficient to make it embarrassed and very irregular. The lungs are permanently engorged and attacks of bronchitis are frequent. A distress which recurs after relief, and with each recurrence grows worse, is pain in the liver. The tenderness to the touch may be extreme and often there is a sense of stretching there which amounts to acute pain as the patient lies still. Sometimes there is a similar pain in the spleen. The urine becomes diminished in quantity and albuminous. The general discomfort may be increased by piles; ascites and anasarca of the legs and arms appear, and a continued reduction in the quantity of the urine which diuretics affect but little points to the constant engorgement and gradual hardening of the kidneys. Treatment and rest give relief, but it is rarely long-continued, and the patient's life, even if carefully regulated, consists of little more than longer or shorter intervals between painful attacks. At last the cardiac irregularity and tumultuous action are incessant, the dropsy becomes inveterate, the engorgement of the liver cannot be diminished any more, constant œdema of the lower lobes of the lungs is present, the imperfect aeration of the blood affects the brain, and the patient has temporary delusions when awake and dreadful dreams during restless and often interrupted sleep. Mitral stenosis is the most distressing of all the common forms of valvular disease. It gives the patient least ease and soonest terminates his life. If it has begun in the girlhood of a woman she seldom lives beyond 40 years of age if she is married and has children, or much later than 50 years if she lives unmarried under the most comfortable circumstances. I have seen very few men with mitral stenosis who reached the age of 50 years. I think it is the cares of a household rather than childbearing which makes the lives of married women with mitral stenosis shorter than those of spinsters, for during pregnancy the patient is often much less distressed by her heart than at any time, though after childbirth she sometimes perishes owing to the onset of a fresh endocarditis. The addition of tricuspid stenosis increases the obvious irregularity of the heart and adds to the distress and diminishes very much the duration of life. From each side of the heart simple emboli may be shot into the circulation and may produce hæmoptysis or hæmaturia, while other hæmorrhages may occur as results of venous engorgement.

The hypertrophy produced by mitral disease seldom increases the heart to more than twice its natural weight. That produced by disease of the aortic valves often does so and may be t[illegible] or even 38 ounces. [illegible] in mind in cases in [illegible] difficult to determine. If there is very great hypertrophy (and no other present cause, such as adherent pericardium or chronic interstitial nephritis), if with a heaving impulse the apex beat is in the sixth space and beyond the nipple line, then that hypertrophy alone makes it probable that aortic disease is present. Such cases generally terminate in a sudden death, and of all causes of transition from what seems fair health to immediate death aortic valvular disease is the most frequent. This sudden death may be very long deferred. Thus a patient who probably acquired aortic valvular disease in 1837, after a well-regulated life in which it rarely troubled him, died suddenly from his aortic disease while dressing one morning in 1900.

Angina pectoris is to be regarded as a likely incident in this form of valvular disease. Its occurrence at once, and generally correctly, suggests a near termination, but sometimes the patient goes on living a very long time. A man whose aortic valves became diseased between 1877 and 1880 found that hard mental work affected his heart soon after 1890 when he was 43 years of age, and in 1898 he had definite angina pectoris which never left him but continued for ten years. I have met with several other instances where a man who seemed likely to die very soon yet lived ten years under similar circumstances.

Such are a few of the points of prognosis in rheumatic fever and in valvular disease. They all involve a repeated consideration of the patient's state and of his account of it. In receiving such accounts of past attacks and pains a literal interpretation of words must not be used nor too much information expected. Johnson in his noble poem on the death of Levett, as he repeated it to Boswell—

> "In misery's darkest caverns known
> His ready help was ever nigh,
> Where hopeless anguish pour'd his groan
> And labour steals an hour to die"

—has a last line afterwards altered by him, which expresses with the force of true poetry an observation on human life made among those who can but just earn their living, the justice of which we, who have all of us known and respected in the wards of our hospitals many such people, can confirm. How many a man and woman have we seen who seemed barely able to spare the time to die and who had amid laborious occupations neglected to record in the mind or to remember illnesses not great enough to prevent going to work.

There is another cause which obscures a man's life-history and which makes him subdue the sensation of cardiac irregularity and go on till the time for resting his heart is almost past and degeneration of the myocardium has begun. Alcohol at this serious and fatal cost obscures his condition from himself and keeps him going when he ought to be in bed. It does much to obscure the gradual, and often to be relieved, course of the valvular disease due to rheumatic fever and leads men to think symptoms sudden which are in reality but the last steps of a very gradual descent. Cases of this kind, of which there are very many, tend to spread the belief that death from valvular disease is a more rapid process than it really is.

Such are the points of prognosis which have struck me most.

The treatment of rheumatic fever proposed by Sydenham was based on the theory that it was an inflammation supported by the observation that the blood drawn from the rheumatic patient presented the same appearances as that drawn from one with pleurisy, a condition then universally described under the pathological heading inflammation. His first proceeding was to order ten ounces of blood to be taken from the arm on the side affected. The next day the bleeding was repeated; after one or two days there was a third bleeding, and after three or four days more a fourth bleeding, which was generally the last. A cooling julep, which was little more than a draught of sweetened water, was to be taken at the patient's pleasure. The painful joints were to be relieved by a poultice of white bread tinctured with saffron or by the repeated application of a cabbage-leaf. The diet was one of barley and oatmeal broth, all meat or meat broths being absolutely forbidden. The patient was allowed to drink small beer, everybody's daily drink at that time, or ptisans of barley, liquorice, or sorrel boiled in water. He was to keep some hours every day out of bed. On the alternate days to the bleedings enemata of milk with sugar were given and for eight days after the last bleeding. After that a purge was to be taken in the morning and the same evening a large dose of diacodium in cowslip water. Then the patient was allowed gradually to return to his wonted way of living with one caution—that he should drink no wine and no spirits and should avoid salted and spiced meats and anything difficult of digestion for a long time. "Pains," says Sydenham, "will thus be lessened, but will remain about for a long time."

Dr. Peter Mere Latham, who wrote in 1845 and whose knowledge of the practice of his day went back to a few years before the battle of Waterloo, had seen rheumatic fever treated by bleeding, by opium (2 to 5 grains every 24 hours), by calomel, by colchicum, and by drastic purgatives. When he was a student at St. Bartholomew's Hospital from about 1810 to 1814 the treatment of rheumatic fever usual there was to give a dose of liquor ammoniæ acetatis three times a day and an opiate at night—a humane method perhaps traceable to the practice of the enlightened David Pitcairn. He himself thought bleeding expedient in many cases. His view about it in the reign of Queen Victoria was much the same as that of Sydenham in Charles II.'s. He had used opium with success, though as, unlike Sir William Gull, he had never thought it right to leave cases quite untreated, he had, he admits, no sufficient standard of comparison to tell him whether he had done more than relieve pain. On the whole, he thought that the best plan of treatment was that by large (10 to 20 grains) and repeated doses of calomel followed by purgatives. I was a clinical clerk at St. Bartholomew's Hospital about a quarter of a century after the end of Dr. Peter Mere Latham's active life in his profession, beyond which his honoured age lasted for many years. His method was entirely obsolete and the general method of treatment of rheumatic fever was by alkaline salts. This method and several others have since become obsolete, and for the present, so far as the Pharmacopœia is concerned, it seems clear that the salicylates are much more efficient than any remedy of past times. They lead to a rapid cessation of the pain and swelling of the joints, and when continuously administered in the dose proper to each patient over several weeks they seem, so far as the temperature chart and the absence of further symptoms enable one to judge to prevent the further development of the organism in the endocardium or to destroy it altogether. The difficulties of administration which occur in particular individuals can generally be overcome by a little ingenuity in prescribing. A more rapid extermination of the organism is desirable, and for this we have yet to seek a drug. For the present that which we have does a good deal for the relief of the patient's pains while it is not inoperative in the process of terminating his malady.

We rightly regard the keeping the patient sufficiently long in a condition of absolute rest in bed as one of the greatest modern improvements—as compared with the practice of past times—in the treatment of enteric fever, and I think we may believe that there is no practiser of medicine in England who fails to carry it out thoroughly. I wish to urge the importance of a similar unanimity with regard to rheumatic fever. My experience leads me to the belief that there is always fear of re-development of the disease if the patient is allowed to leave his bed till his temperature has been absolutely normal, without any rise whatever above the normal line, for three weeks at least from the last rise. After this he ought long to be watched day by day with the aid of a temperature chart; and if in the week of his leaving bed or later any definite rise is observed, he ought to go back to bed for a further three weeks If no rise occur he ought still to continue under observation for three months, if possible, taking salicylates or similar drugs in adequate but diminishing quantities, and all this time his life should be so ordered that no strain is put upon his heart. If he is a boy at school he is not to take part in games all this time. If he is at home he is to take carefully regulated exercise and to have one rest or more in the day as well as a long night.

Perhaps in hospitals it may prove that three weeks of normal temperature is not enough before allowing the patient to get up. This may be discovered when three weeks have come to be generally adopted as a minimum period. I am certain that an earlier day of getting up only leads to prolongation of the disease.

One point which I wish to urge about the valvular disease due to rheumatic fever is the importance, when we see such cases, of taking the temperature or asking for a temperature chart. Thus only can we be certain that endocarditis is not present and that our treatment ought not to require that the patient stay in bed. Most physicians have seen children who walked to the hospital and who had the day before played about who, when examined, had raised temperature and such marked alteration of cardiac sounds that it was certain they had had endocarditis for several days. Arthritis was, of course, present, but of some small joint and causing only a little pain. Thus, when seeing a case of valvular disease in a young person, the first question to which the observer must ascertain the answer is not, when had he rheumatic fever, but has he got rheumatic fever at present. Thus the observer will come to know whether he has to treat a condition of acute endocarditis or one in which he is to try to relieve the heart in difficulties which it suffers from this or that simple or complex valvular defect.

As to this last part of the subject, it would be obviously impossible within the limits of these Lumleian lectures to deal with it. If, like the accomplished Sir Charles Scarburgh, versed alike in medicine, in anatomy, in Greek, and in mathematics, I were to hold the lectureship for 38 years I might perhaps, if I had his abilities as well as his time, exhaust all that there is to be said on valvular disease in all its forms. Or if like the learned and judicious Dr. Richard Powell, the first describer of facial palsy, I were to hold the lectureship for ten years, I might make considerable progress in the statement of sound principles of treatment and the refutation of much that is foolish which has been said about it; but my measure is smaller and my course of lectures is finished. Your time and mine will not have been wasted if I have persuaded you, and through you our profession at large, (I.) that rheumatic fever is a single definite disease; (II.) that endocarditis is always an essential part of it; (III.) that its duration may extend over many years, and that these circumstances, but half demonstrated as they necessarily are at present, are still the safest indications of method in the treatment of the disease.

Lord Lyndhurst, the Chancellor, once said in conversation, "I consider that the worst exaggerator is the person who understates." The remark was original and wise. It is illustrated in the books of many writers on rheumatic fever. They understate the conclusions which their own experience would allow. I have tried to avoid this fault and to state the conclusions to which my own experience has led me without abatement and without reservation. I have ventured to risk the censure which might attend such a course because I believe that the adoption of these opinions would not merely lead to a saving of lives but also to the prevention of many of the fatigues, disappointments in work, checks in usefulness, and other inconveniences which follow the valvular disease consequent on the endocarditis of rheumatic fever.

An Address

ON

GALL-STONES,

Delivered before the South-West London Medical Society on Jan. 13th, 1909,

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SURGEON TO, AND LECTURER ON SURGERY AT, CHARING CROSS HOSPITAL; SENIOR SURGEON TO THE VICTORIA HOSPITAL FOR SICK CHILDREN; EXAMINER IN SURGERY AT THE UNIVERSITY OF LONDON.

GENTLEMEN,—When your President and Council did me the honour to invite me to address you this evening I decided that I would choose as my subject "Gall-stones." Among the reasons for my choice were the facts that gall-stones constitute one of the most frequent of all the many morbid conditions to which the human body is liable, that their existence and their causal relationship to many grave forms of disease remain in many instances unrecognised, at least for a considerable time, and my conviction that the aid of the surgeon in cases of gall-stones, often sought too late, cannot be summoned too early. Time will only permit me to deal superficially with my subject, as it is too vast for adequate description in one address. I have no intention of describing the technique of the various operations that may be employed, as I have been informed that my audience is essentially composed of general practitioners, not of operating surgeons.

Let me remind you that though biliary calculi are far most frequently found in the gall-bladder, yet they may be found within the liver itself in one of the rootlets of the hepatic duct. Such hepatic stones, I believe, are rare, and are discovered on the post-mortem, rather than on the operating table. I have been struck by the fact that the size and number of biliary calculi bear no relation to the symptoms which they may produce. The largest gall-stone that I have removed is this which I show you (from a patient under the care of Dr. Arthur Farr). It measures two inches in length and three and a half inches in circumference measured at right angles to its long diameter. The smallest amount of concretion was represented by half a saltspoonful of fine sand, and yet in this case the symptoms were so urgent that immediate removal of the gall-stones was recommended by Dr. A. H. Vassie and myself. As to number, gall stones may be solitary or very numerous. Solitary gall-stones are by no means rare; the three that I now show you were removed by me during the past year. They are all, as you will observe, pear-shaped or oval, and lack the facets so characteristic of [illegible] Biliary calculi [illegible] forms about [illegible] insoluble lime salts, held together by an albuminoid scaffolding.

Little is known of the mode of formation of gall-stones. The cholesterin may be derived from the bile by precipitation, as the latter contains only about 2 per cent. of cholesterin, but it is now commonly believed that the cholesterin, the bilirubin, and calcium salts, and the albuminoid framework, all owe their origin to catarrh of the mucous membrane of the gall-bladder (lithogenous catarrh) commonly, if not invariably, of microbic origin. I believe that in all cases microbic infection of the mucosa of the gall-bladder is the chief causal agent in the production of gall-stones. It acts by giving rise to inflammation of the mucous lining of the gall-bladder and ducts, and thus forming mucoid masses around which are deposited cholesterin, bilirubin, and lime salts.

I am convinced that typhoid fever is a potent cause of gall-stone formation. A history of typhoid fever has been present in more than a quarter of the cases upon which I have operated. I have found typhoid bacilli in the gall-bladder three years after all symptoms of this disease had ceased, and have operated upon cases of typhoid cholecystitis. If this be true of the bacillus typhosus, surely it is only reasonable to suppose that other microbes which may gain access to the interior of the gall-bladder, either by way of the common bile-duct from the duodenum, or possibly by the blood stream, may have the same power. It is by no means uncommon to find gall-stones apparently dating from an attack of gastro-duodenal catarrh. In nine out of ten of my gall-stone cases in which a bacteriological examination was made, micro-organisms, chiefly bacillus coli, bacillus typhosus, and staphylococci, were found.

Gall-stones, as is well known, are more common in the female than in the male subject, and in those over 40 years of age, who are stout and indolent. The proportion of cases [illegible] hospital patients, [illegible] who indulge freely [illegible] frequently among [illegible] rink alcohol, the reason being, I believe, that teetotalers are in general large eaters. A statement which is undeniable is that biliary calculi are many times more frequent in women who have borne children than in those who are childless. Few medical men seem to recognise how common biliary calculi are. From various statistics it is certain that they are found at necropsies in 9 per cent. of all adults and in 27 per cent. of women over 50 years of age. Though I have for many years been surgeon to a large children's hospital, I have only once found gall-stones in a child under 12 years of age.

SYMPTOMS AND RESULTS OF GALL-STONES.

With these preliminary observations, allow me now to pass under review some of the symptoms and results of gall-stones. In the first place, let me say that though I am a surgeon I admit freely that in a considerable number of cases gall-stones give rise to no symptoms, or perhaps I should say to none recognised by the medical attendant, and this especially in cases in which bile can pass easily into the intestine. How often has it happened that a necropsy has revealed a gall bladder containing many calculi, the presence of which has never been suspected during life. Such instances have, in my experience, mostly occurred in old patients. In many cases, however, stones in the gall-bladder give rise to many and diverse symptoms, and not infrequently produce results of extreme gravity. Allow me to remark that there is no morbid condition of equal frequency that is more commonly overlooked than cholelithiasis. When t[illegible] the patient enjoys freed[illegible] tion of gall-stones is [illegible] me to point out that we see many times a year cases of gall-stones which cause symptoms and which ought to be diagnosed as such, but are not. The reason of this failure of diagnosis is that the patient refers all his, or her, pain and discomfort to the stomach and not to the gall-bladder or liver. The great majority of patients, possessors of gall-stones, have, I am convinced, been treated for months, and even years, for dyspepsia, chronic gastric catarrh, pain referred to the epigastrium, and flatulent distension of the stomach—i.e., for the conditions of which they themselves complained, whereas the real cause of their suffering and ill-health was the presence of calculi in the gall-bladder. How frequently has every surgeon known the old woman who has for years been treated for indigestion and wind on the stomach until some new symptom drew attention to her gall-bladder, when the stones were removed, and all stomach troubles completely disappeared. My firm belief is that the majority of flatulent dyspeptic women who attend the medical out-patient room with such wondrous regularity to receive their weekly bottle of medicine are really suffering from gall-stones. I do not ex[illegible] right and that I[illegible] y side. Many of [illegible]-stones, suffer fr[illegible] in the right shoulder, or some part of the scapula, especially its lower angle. Nearly all of them complain of a feeling of nausea and of a distaste for food, at least at times; many complain of a pain in the gall-bladder region, but tenderness—i.e., pain on pressure over the gall-bladder—is not always to be made out. Bear in mind that the contracted gall-bladder may be at a considerable distance from the surface. In many patients, however, who complain of no gall-bladder tenderness this symptom may be elicited by pressing the fingers deeply under the liver during full expiration, and then asking the patient to take a deep inspiration.

Jaundice is quite the exception in cases of gall-stones, save when impacted in the common bile-duct. It has been entirely absent in more than 85 per cent. of my cases. We must distinguish between (1) inflammatory—i.e., microbic—jaundice, such as may result apart from cholelithiasis, e.g., may be a sequel of cholecystitis; and (2) lithogenous jaundice, which is at first, at any rate, a mechanical process and due to the blockage of the common bile-duct by a firmly impacted calculus. Lithogenous jaundice from this cause is seldom so marked as jaundice due to the pressure of a tumour from outside on the common bile-duct—e.g., cancer of the head of the pancreas. Let me mention in this place the ball-valve calculus in the common duct. Take a case in which a calculus has passed half-way down the duct. That part already traversed by the calculus is dilated by the passage of the stone and by the *vis a tergo* of the accumulated bile; jaundice results. Then the calculus slips back into the dilated duct segment and bile flows into the intestine; again the calculus drops down and obstructs the non-dilated segment of the duct, and this process repeats itself indefinitely. This is the explanation of the fact that in chronic common duct calculous obstruction jaundice may be but slightly marked or be entirely absent. Many a patient has a stone or stones in the common duct without any suspicion of the fact on the part of his medical attendant. Jaundice is of course absent in purely mechanical calculous obstruction of the cystic duct. It makes its appearance, as a rule, in from 18 to 36 hours after an attack of biliary colic when a stone obstructs the common bile-duct, but, apart from the ball-valve calculus mentioned above, in a certain proportion of cases in which the calculus appears to be firmly impacted bile is enabled to trickle past it, so that jaundice may be but slight or even absent. In cases of jaundice which have lasted for many days and are the result of obstruction of the common duct a distended palpable bladder indicates that the duct obstruction is due to some other cause than calculus, usually to cancer of the head of the pancreas. When due to calculus impaction the gall-bladder is usually shrunken to the size of a walnut or a filbert and cannot be palpated.

Biliary colic is the most prominent trouble in cases of gall-stones, but most gall-stone subjects never complain of biliary colic, as usually the calculi do not enter the ducts but remain in the gall-bladder. The gall-bladder is a wonderfully distensible organ. It can be made to contain a pint of water, forcibly injected down the cystic duct, without rupture. The muscular tissue of the gall-bladder exhibits a marked tendency to hypertrophy in cases of biliary calculi. The cystic duct has a length of one and a half inches and a diameter of one-tenth of an inch, the corresponding measurements in the case of the common bile-duct being double the length and two and a half times the diameter of the cystic duct. Remember that the common bile-duct opens into the duodenum at the ampulla of Vater by an orifice common to it and the pancreatic duct, and that at this opening there exists a fairly definite sphincter and a marked contraction of the lumen of the duct. Both the cystic and the common bile-ducts resemble the gall-bladder in their capacity of allowing their lumen to be greatly dilated under pressure from within. In biliary colic the gall-bladder, hitherto wonderfully tolerant, for some reason suddenly resents the presence of stones in its interior and contracts upon them with the view to their expulsion, when, provided that the stone or stones be larger than the diameter of the cystic duct, a series of phenomena occur constituting gall-stone colic, the agony of which is in many cases a memory for the rest of the patient's life. As the calculus is forced into the cystic duct this canal resists the distending invader forced into it by the *vis a tergo* of the contracting gall-bladder, aided by contraction of the abdominal muscles. The passage through the cystic duct is rendered the more difficult owing to the presence of the pseudo-valves (folds of Heister) in its interior. As a rule these folds interfere with the passage of a probe down the duct. Once the cystic duct has been traversed the agony becomes less intense owing to the larger size of the common bile-duct, but at the end of this canal there is a still more narrow strait to pass—i.e., the markedly contracted orifice of the duct at the ampulla of Vater. Gall-stone colic frequently occurs in the early hours of the morning—about 2 A.M.—and often after a big dinner. There are few things worse for the possessor of gall-stones than a big city dinner, and I have known a respected citizen of portly dimensions express his bitter regret, during the agony of the gall-stone colic, that he had not been content with sponge cakes and milk and soda, instead of overloading his stomach at a city dinner. The explanation of the hour of onset of the attack is the attempt of the gall-bladder to expel the bile into the intestine at the suitable time—i.e., when the food enters the duodenum. The onset of the attack is so sudden that I have more than once known it to be mistaken for a perforative lesion of a hollow viscus. From the gall-bladder as a centre agonising pains shoot in various directions to the epigastric and the umbilical regions, the right shoulder, and the inferior angle of the scapula. The agony increases with exacerbations, and lasts, as a rule, from five to 18 hours, though I have known it to continue for six days with hardly an intermission. Commonly, the temperature is normal, or subnormal, but at times it is considerably elevated and such a febrile rise is apt to lead to mistakes in diagnosis.

Vomiting is a fairly frequent symptom in all cases of biliary calculi and a usual one in biliary colic in which the contents of the stomach are at first alone ejected. Later the vomit may become bilious. Provided that the cystic duct be alone blocked bile can readily find its way from the liver down the hepatic and common bile-ducts into the duodenum and thence into the stomach. Should, however, the stone block the common bile-duct bilious vomit cannot occur. For the same reason in the former case the fæces contain bile and no jaundice results; in the latter, after a certain period, the fæces are unstained by bile, and jaundice and bile pigment in the urine appear.

Gall-stone colic commonly ceases as rapidly as it commenced, and the patient then experiences the delights of freedom from intense pain. In many cases this cessation of colic means that the stone has reached the intestine, but in others that, finding its passage through the cystic duct impracticable, it has dropped back into the gall-bladder.

During an attack of biliary colic the liver may be noticed to be swollen and the gall-bladder exquisitely tender to the touch. These symptoms slowly subside and then frequently an enormous amount of clear watery urine is passed. It is needless to say that after every attack of biliary colic the fæces should be examined with scrupulous care for the detection of calculi for at least a week after the attack. In intense colic faintness not infrequently overcomes the suffering patient. Rigors with high fever may occur in cases of gall-stones with or without biliary colic and may disappear so soon as the infected bile gains entrance into the intestine. The fever in such cases resembles malaria; it is markedly intermittent, the temperature, which may rise to a great height—e.g., 106° F.—falling to normal, or just above normal, a few hours later. This condition is usually due to a calculus impacted in the common duct, and is of serious account, as it indicates infective inflammation of the biliary ducts. A terrible termination to biliary colic is rupture of the gall-bladder, the cystic, or the common bile-duct with outpouring into the peritoneal cavity of infected bile and resulting septic peritonitis.

Treatment of biliary colic.—Commonly a hypodermic injection of one-third of a grain of morphia is given as the patient demands relief from his agony. Antipyrin in doses of 10 grains every hour until 40 grains have been given is, I am convinced, a useful drug. Hot fomentations over the gall-bladder are soothing. When the pain has been very agonising I have had encouraging results from administering chloroform and massaging the gall-bladder and ducts through the relaxed abdominal walls. This method I commend to you with confidence, but it must only be employed in cases in which all signs of inflammation are absent.

Fatal obstruction of the small intestine by a large biliary calculus I have only once seen. I was called to a moribund old woman who for seven days had suffered from intestinal obstruction evidently low down in the ileum. As she was dying I left her alone and death took place within an hour of my first seeing her. At the necropsy I found a stone of the size of a florin tightly impacted in the lower end of the ileum six inches above its termination. The patient's daughter assured me that her mother had never suffered from biliary colic, and this was explained by the fact that this was a solitary stone which had ulcerated into the duodenum, leaving an opening between the gall-bladder and this segment of the intestine.

A more frequent result of gall-stones is the presence of dense fibroid adhesions around the pylorus and the commencement of the duodenum, which so narrow these parts as to give rise to gastric dilatation and call for the performance of gastro-enterostomy. I have several times found gall-bladder, liver, duodenum, and pylorus imbedded in adhesions (in one case so dense as to simulate a neoplasm when examined through the abdominal wall), and have been enabled to give relief to the gastric symptoms by the performance of gastro-enterostomy.

Permanent Obstruction of the Biliary Ducts.

We have hitherto considered cases in which the gall-stone obstruction in either duct was only temporary. We now turn to such in which the calculus remains permanently impacted. When this happens in the cystic duct the bile no longer enters the gall-bladder, which may undergo various changes. It may dwindle to a shrivelled sac with thickened walls which may, in part, calcify; it may become distended with clear, ropy fluid derived from the mucosa until it attains so vast dimensions that it may be mistaken for an ovarian cyst or a hydronephrosis, or the fluid in the gall-bladder may become pus, and lead to perforation of the viscus and peritonitis. Much more serious is the case when the common bile-duct is permanently and totally obstructed by a calculus, for in such the bile is prevented gaining access to the intestine and jaundice results. This, however, not invariably occurs, for I have operated upon several cases in which the common bile-duct was, to all appearance, blocked by calculi varying in number from one to nine, and yet bile was able to find its way adequately into the intestine. It is noteworthy that in some instances the common duct is obstructed by calculi so completely as to cause jaundice, and yet the closest examination of the patient reveals no history of gall-stone colic. Complete blockage of the common duct may cause no symptom beyond jaundice with clay stools and slight hepatic enlargement. In other cases sooner or later ensue the results of infection—viz., suppuration of the biliary passages and gall-bladder, cirrhosis (biliary) of the liver, suppuration of the intrahepatic ducts, or of the liver substance.

Allow me now to direct your attention to infection of the biliary ducts and its results. Normally the entire biliary apparatus is sterile. I have (in *Virchow's Archiv*, 119. Band, 1890) shown that in animals the introduction of bile into the peritoneal cavity does not cause a fatal peritonitis, and that the bile is really free from micro-organisms. The bile, however, though sterile, has no antiseptic qualities, but is a suitable medium in which microbes may grow and flourish. Hence it follows that the entrance of pathogenic bacteria into the biliary passages is fraught with utmost danger. The ampulla of [illegible] may be foun[illegible] health washed out by the flow of bile, but the arrest of this secretion enables them to ascend the duct and thus to produce their baleful action. I am convinced that in such *cases ascending infection* is the rule, though I *do not deny* the possibility of infection by the blood stream.

Experimental ligation of the common duct may produce ascending infection of the biliary passages, especially if it be performed in the last inch of the duct. Here injury to the duct wall acts as a *locus resistentiæ minoris*. Ascending infection of the biliary passages is usually ushered in by rise of temperature, 101° to 105° F., with rigors and profuse sweats. The fever is markedly intermittent and frequently simulates malaria. Between the exacerbations the temperature may fall to the normal or remain somewhat elevated. In other cases, which are of serious omen, the temperature remains the whole time at or near its maximum, this being an indication that the infection has reached and seriously attacked the liver in addition to the extrahepatic biliary passages.

Angiocholitis.—In this condition the intrahepatic biliary ducts are involved in the infective process. On post-mortem examination the liver is found to be swollen, pulpy, and infiltrated with pus. Some of the pus lies in the dilated intrahepatic biliary ducts, some in real abscesses which have their origin in the periductal connective tissues.

Gall-stone cholecystitis is the result of ascending biliary duct infection attacking a gall-bladder containing calculi. Should the infection occur in a gall-bladder only recently occupied by gall-stones, the gall-bladder will form a definite swelling. If, however, it occur in a gall-bladder long the container of gall-stones and the subject of previous inflammation, the sac, now contracted and shrunken, will not be able to assume tumour dimensions. The fluid in the gall-bladder may be sero-purulent, purulent, or hæmorrhagic, and in cases of some standing the viscus itself is adherent to neighbouring viscera (the duodenum, the transverse colon, the pylorus). These adhesions are not infrequently dense and fibroid in character.

Regarding the question of diagnosis, let me draw attention to the value of radiography. In many cases my colleague, Dr. W. Ironside Bruce, has given me assistance of very real value and has confidently and correctly diagnosed the gall-stones present. In other cases he has reported that the evidence was inconclusive. Such have commonly been in fat patients, in some of whom I have found, in others failed to find, gall-stones. I think it only due to my colleague to say that in no case in which he has stated that calculi were present have I failed to find them. I conclude, therefore, that in skilled hands such as his a positive diagnosis has a positive value. In some cases of calculous cholecystitis there will be found just outside the margin of the right rectus abdominalis, at its junction with the costal margin, a swelling and in all a point of tenderness on deep pressure.

The treatment of calculous cholecystitis is purely surgical, and it may be laid down that no delay, once the diagnosis has been established, is permissible. My preference in nearly all such cases is for cholecystotomy with drainage of the gall-bladder, an operation that, except in gangrene of the gall-bladder, has afforded me results that leave little to be desired. Cholecystectomy, or extirpation of the gall-bladder, has always appeared to me to be a more serious operation and to lack the virtue of drainage of the biliary passages which cholecystotomy affords. I reserve it solely for those cases in which I fear that the gall-bladder wall is seriously compromised in whole or part. Cholecyst-duodenostomy—i.e., making an opening between the gall-bladder and the intestine (duodenum) or transverse colon (cholecyst-colostomy)—should, I consider, be rarely performed and should be reserved for those rare cases in which the common bile-duct obstruction cannot be relieved. I have in two such cases performed [illegible] ve personal experience of [illegible] ive you no information of [illegible]

[illegible] ion which I have not infrequently met with. Many cases are fortunately localised by adhesions and thus form encysted abscesses. Frequently the origin [illegible] I have twice last year opene[illegible] obtaining any history of [illegible] gall-stones were immediately passed by the incision and rapid healing resulted. In the other a biliary fistula resulted which persisted for five months. A large gall-stone was then felt with a probe at the bottom of the sinus. The sinus having been dilated, a large single stone was extracted with forceps and six weeks later the sinus closed.

Far more serious are the cases of acute generalised peritonitis in which infected bile is poured out into the peritoneal cavity owing to sloughing of the wall of the gall-bladder or of one of the biliary ducts. In my experience this is a very fatal complication. Of the five cases that have come under my care, three occurred during an attack of biliary colic, and I confess that in two I did not immediately recognise, amid the agonising pain of biliary colic, that perforation had occurred. In the remaining cases perforation of the gall-bladder took place without any history of biliary colic, and the diagnosis of perforative peritonitis was easily made, though I attributed it to a duodenal or gastric ulcer in both. One recovery out of five cases is my melancholy experience of this grave condition. Of biliary fistulæ the result of gall-stones I have seen but few which discharged bile externally, and rarely has the discharge been at all copious. Internal fistulæ—i.e., of the gall-bladder with the duodenum the more common form, or with the transverse colon—are not uncommon. In no case did an internal fistula cause apparent damage to the patient and in the majority the diagnosis was only made at the necropsy, the patient having died from some other malady.

Let me now briefly refer to those far from infrequent cases of relapsing cholecystitis of microbic origin which so closely simulate gall-stone cholecystitis but in which no gall-stones are found on incising the gall-bladder. I do so for this reason, that their treatment by cholecystotomy and drainage is almost as satisfactory as is that of those cases in which gall-stones are found. I will content myself with the history of a single case. My old friend and fellow student Dr. G—— was obliged to relinquish practice owing to repeated attacks of abdominal pain and ill-health. I saw him in consultation with Dr. W. Aldren Turner. It was clear that he was suffering from chronic appendicitis. I removed the appendix vermiformis, which was obviously diseased, and thought that all would now be well with my friend. Some months later he consulted me again and told me that though he felt much better he was not yet well. He was now certain that his abdominal attacks were of two kinds: one the symptoms of which were due to appendicitis which had disappeared since the offending organ was removed; the other, of less severe nature, still persisted and frequently recurred. Dr. Turner and I diagnosed infective cholecystitis and I drained the gall-bladder, which contained no calculi, with the happiest results. My old friend, who for two or three years had been unfit for work, is now, I am glad to report, in excellent health, and doing useful service as medical officer of health to a large district. This combination of cholecystitis and appendicitis is by no means unusual. I have frequently met with it.

Time will not permit me to enter into the interesting question of the relation of gall-stones to pancreatic disease. I may, however, remark that a stone impacted at the ampulla of Vater is a serious menace to the pancreas. The pancreatic secretion may be dammed back into the gland, ascending inflammation of microbic origin of the pancreatic ducts may occur, or bile may find its way into the duct of the viscus with grave results. It is well known that the most efficient treatment for chronic pancreatitis consists in drainage of the biliary ducts by way of the gall-bladder.

PROGNOSIS.

I would insist that prognosis in cases of gall-stones is most uncertain. No one can foretell the outcome of the condition. I have learned never to prophesy. Some of the cases in which the symptoms have been trifling have terminated in death. Some of the most threatening and ominous have made apparent recoveries without operation. Two cases in which attacks of biliary colic and cholecystitis had recurred over and over again for several years with marked jaundice, rigors, and high fever, and in which I gave a grave prognosis, owing to operative treatment having been refused, made ultimate recoveries after the passage of gall-stones per anum, one when the patient appeared to be almost *in extremis*. In one, however, grave loss of vision occurred owing to retinal hæmorrhages.

The most frequent causes of death are: (1) microbic cholangitis; (2) perforation of the gall-bladder and ducts; and (3) carcinoma of the gall-bladder. I have met with carcinoma of the gall-bladder in a definite proportion of cases of cholelithiasis and have never seen it as a primary growth apart from gall-stones. I am convinced that their irritation is the usual cause of carcinoma of the gall-bladder. I think I may fairly claim that every death from gall-stones is a preventable one, that early operations are very safe, that they avoid many and grave complications, and that drainage of the gall-bladder is practically never followed by the re-formation of calculi. Were the question put to me, "In what cases would you advise operation for the removal of biliary calculi?" I confess I would wish to answer, "In all." This, which I am convinced will be the treatment of the future, would probably induce the majority of my hearers to label me an extremist. Let my reply be: Let me ask you to tell me something about your patient? If he will assist you in your endeavour to keep him out of the hands of the surgeon, will adhere to simple living, avoiding alcohol and rich foods, will drink a tumbler of hot water, with preferably a little alkali in it thrice daily, and take a daily dose of Carlsbad salts to insure free movement of the bowels and relieve any gastro-duodenal catarrh, then let him, if he wish, postpone the operation, for such treatment tends in many careful patients to induce a condition of absence of symptoms, commonly mistaken by the patient for a cure. But even such an ideal patient would be safer with operative treatment.

Should, on the other hand, your patient be one of those who live to eat, and is intolerant of restraint, who will not carry out instructions but persists in over-loading his stomach with rich food and alcohol, far exceeding what is required by a middle-aged man, then surely disaster awaits him if he insist on retaining his gall-stones; and if, in the absence of any contra-indication, his medical attendant aids and abets him in his refusal of surgical relief he cannot absolve himself from blame should some grave complication endanger his patient's life.

In conclusion, I would insist that as soon as the medical attendant makes up his mind that operative treatment is indicated the less the delay the better for the patient. The operative treatment of gall-stones in the early stages of the disease is one of the safest and most beneficent of all surgical procedures. I am convinced that an early cholecystotomy is far less dangerous to the patient than the passage of a single stone *per vias naturales*. I know no operation more easy or more entirely satisfactory than an early cholecystotomy. I know few more difficult than choledochotomy or extraction of a stone from the common bile-duct in a long-standing case. In the latter, even if the stone be removed the dangers are by no means overcome, as infection of the biliary passages may persist or adhesions may cause trouble in adjacent organs, especially the stomach. My advice to you, therefore, must be that as soon as you have, with some assurance, diagnosed the presence of biliary calculi, and especially if you can satisfy yourselves that they have produced definite symptoms and are threatening to give rise to some complication, the earlier they are extracted from the gall-bladder the better for your patient's safety and for your peace of mind.

URACHAL CYST SIMULATING *APPENDICULAR* ABSCESS; ARRESTED DEVELOPMENT OF GENITAL TRACT:

WITH NOTES ON RECENTLY REPORTED CASES OF URACHAL CYSTS.*

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OVER ten years ago I read before a meeting of the Royal Medical and Chirurgical Society a communication entitled "A Case of Cyst of the Urachus, with Notes on Urachal and so-called 'Allantoic Cysts.'"[1] Several years passed by, but I came across no further examples of urachal cyst in my own practice until last summer, when I revealed by operation a remarkable and, I must add, undiagnosed example of this form of tumour. It simulated appendicular abscess and was associated with arrested development of the upper part of the genital tract. I will relate this case and then dwell upon others recently reported by Mériel, Weiser, Binnie, Delore and Cotte, E. D. Ferguson, &c., adding an unpublished report of a cystic sarcoma of the urachus in the practice of my friend Mr. F. S. Eve. I shall discuss almost exclusively pure urachal cysts as distinguished not only from tumours which are not urachal, but also from cystic urachal fistula, which, like other forms of urachal fistula, is clinically and surgically quite different from urachal cyst. The consideration of the pure cyst, in itself somewhat complicated, is quite sufficient for a single paper. I will endeavour to explain how much has been added to our knowledge of these cysts since I reported my first case in 1898.

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* A paper read at a meeting of the Surgical Section of the Royal Society of Medicine on March 9th, 1909.

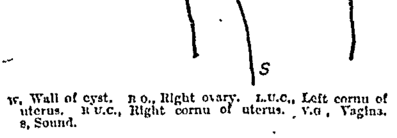
[1] Transactions of the Royal Medical and *Chirurgical Society*, vol. lxxxi., 1898, p. 301.

Urachal Cyst Simulating Appendicular Abscess; Arrested Development of the Upper Part of the Genital Tract.

The patient, aged 17½ years, unmarried, applied to Dr. R. Drummond Maxwell at the out-patient department of the Samaritan Free Hospital on July 16th, 1908. She complained of tenderness and swellin [illegible] ssociated with a history of a sudc [illegible] region a month previously, and she was admitted into my wards at once. After admission I found that the relations of the swelling to adjacent organs could not well be defined until I examined the patient with the aid of anæsthetics under circumstances presently to be explained. The patient's mother informed me that the catamenia were established at the age of 14 years without pain or constitutional disturbance. The periods were always scanty and attended with very little pain, and the interval was about five weeks. The patient had never suffered from any neurosis before, at, or after puberty. On June 16th, one calendar month before admission, the menstrual flow appeared as usual, but was accompanied by violent pain never experienced before. The pain continued for two days and then it abated. The patient at once resumed her work, but the pain returned two days later and obliged her to take to her bed again. During the whole of the week before admission she was quite incapable of attending to her duties. Roughly speaking, as regards what could be made out before anæsthesia was employed, there was a fairly well defined, almost spherical, swelling in the right iliac fossa, slightly moveable and tender to touch. There was resonance on percussion over its outer aspect. The lower part of the swelling could be defined on rectal examination. I refrained from making a vaginal exploration until a consultation was held. Then it was found that the vagina was barely two inches deep. A kind of dimple could be defined at the blind extremity towards the right. The tumour did not bulge into the vagina. At the lower limits of the swelling was a tuberosity which lay behind the vagina and in front of the rectum. The temperature and pulse were low. The patient had never been laid up with any severe illness. Before the arrested development of the vagina had been detected appendicular abscess was suspected, but after the examination hæmatometra or hæmatosalpinx seemed equally probable. On July 21st the period began, as usual, about five weeks after that which preceded it. I found that there was no palpable increase of pain or tenderness in the tumour nor any appreciable increase or decrease in size. The show was unusually free. I decided to examine the patient under anæsthesia during the period in order to discover the channel which transmitted the menstrual blood into the vagina, and for other manifest reasons.

Examination under anæsthesia.—The patient was a fairly healthy but slightly anæmic blonde. Her manner and appearance were perfectly feminine. Though hardly over 5 feet in height she was well proportioned, broader at the hips than at the shoulders, and free from hair on the face. The breasts were well-developed; there was no areola round the nipples. The axillary and pubic hair corresponded to the [illegible]

FIG. 1.



W, Wall of cyst. R.O., Right ovary. L.U.C., Left cornu of uterus. R.U.C., Right cornu of uterus. V.G., Vagina. S, Sound.

urinarius were normally developed. There appeared, on the other hand, to be no hymen nor was there the least trace of carunculæ. The vagina formed a blind pouch about two inches deep; the rugæ were prominent. The vaginal pouch was distinctly deeper on the right side, whence dark menstrual blood was seen to issue. On stretching the adjacent mucosa with the fingers a crescentic fold with the concavity towards the left was detected. It covered the aperture whence proceeded the blood. A uterine sound could be passed into this aperture and pushed onwards for three inches upwards, backwards, and a little to the right, closely following the outer limits of the lower pole of the swelling, as could easily be defined on digital exploration from the rectum. (Fig. 1.) On bimanual palpation the swelling was found to be a well-circumscribed tumour, firm, oval, and as tense as a recent hæmatocele. It could be pushed a little downwards, yet even then its lower pole did not bulge into the vagina, but passed behind it. The tuberosity in the recto-vaginal septum discovered at the previous examination lay to the left of the menstruating tract. It felt like a small cervix. The nature of the case remained obscure. I kept the patient at rest for a week. The period ceased and the tumour remained stationary. There was one sharp attack of local pain on July 28th without any rise of pulse or temperature.

Operation.—On July 29th I operated, with the assistance of Dr. R. V. G. Monckton, Dr. S. H. Belfrage administering ether and chloroform. I made an incision in the middle line. The parietes were unusually vascular. After separating the recti I came across a thick membrane of doubtful character and lower down I exposed the wall of the bladder which extended for quite two inches above the pubes. The membrane was cut through and about half a pint of a perfectly clear fluid was removed; unfortunately, none was preserved. The fluid lay in a cyst behind the recti and anterior to the parietal peritoneum; the membrane through which I had made the incision being the anterior portion of the cyst wall. The cyst was connected with the bladder by a thick cord half an inch in length. The upper limits of the cyst lay close below the umbilicus. In exploring the upper end of the tumour I laid open the peritoneal cavity. The omentum adhered to the peritoneum investing the back of the cyst in this region. The intestines seemed healthy; there was no evidence of tuberculous disease, no free fluid, and no intraperitoneal tumour. Lower down some coils of ileum adhered to the parietal peritoneum behind the tumour. I endeavoured to define the relations of the cyst to the genito-urinary tract. A catheter was passed into the bladder and a few ounces of urine were drawn off. There was no communication between the cavity of the bladder and the cavity of the cyst; the thick cord between the two was clearly a portion of the urachus and I observed that it ran into and not over the cyst wall.

As might have been suspected from what could be defined before the operation, the cyst lay to the right of the middle line. On pressing against its wall on the right inferiorly, from the inner side, I detected a fusiform body, like a uterine cornu or a small but entire virgin uterus, lying in the position of the menstruating tract along which a sound had been passed a week before. Above this body thickened tissue could be felt, apparently a small ovary. The tuberous cervix-like body already mentioned could be plainly defined through the walls of the lowest part of the cyst. When thus explored it was found to be a distinct, fairly moveable structure, the left ovary or uterine cornu. On further palpation through the cyst wall the pelvic cavity felt quite free from any tumour or deposit. There certainly was no such thing as a collection of retained menstrual blood.

At this stage of the operation it became evident that the swelling, which disappeared entirely when I opened the cavity full of fluid, was a urachal cyst. That swelling—in other words, the cyst—had been the cause of all the patient's recent trouble. As there was no trace of a hæmatometra or hæmatosalpinx I did not feel justified in dissecting in the dark behind the cyst, amidst deformed structures in very uncertain relations to ureters, blood-vessels, &c., merely to make out the extent of arrested development of the uterus and appendages. It was with the cyst, therefore, alone that I had to deal. I knew of several objections to the draining of a urachal cyst, nor could I dissect away its outer wall, since, as I have just observed, its positive relations to malformed structures were very uncertain. For these reasons I simply trimmed away as much of the lining membrane as could be safely removed. Then I cautiously passed several fine catgut sutures along the substance of the outer wall and tied them, so that the cyst cavity was closed in. This outer wall was the muscular sheath of the urachus abnormally thickened, so that the manœuvre just described was easy and nothing was caught up behind the cyst. I transfixed the segment of the urachus which ran between the lower limits of the cyst and the bladder with a fine linen suture and tied it on both sides. It was then divided between the cyst and the ligature. As will be explained presently, it is fortunate that I transfixed the urachus instead of tying a single ligature round it as though it were an artery. I kept the portion attached to the cyst for microscopic examination. Lastly, the sheaths of the recti were united with interrupted fine linen sutures and the integuments closed with interrupted silkworm gut.

After-history.—During convalescence there was no difficulty in micturition, which was voluntary from the first, and no urine leaked through the wound. By August 7th all the silkworm-gut sutures were removed; the wound was by then well healed. There was at that date no trace of any swelling in the right iliac region or pelvis. The firm moveable body which lay until the operation below the lowest part of the cyst was found, on bimanual palpation, to be connected with the fusiform body to the right of the middle line.

During the summer vacation Dr. Maxwell took charge of the patient in my absence. He reported that up to the day of her discharge at the end of August there was no sign of leakage of urine through the wound nor any show of blood.

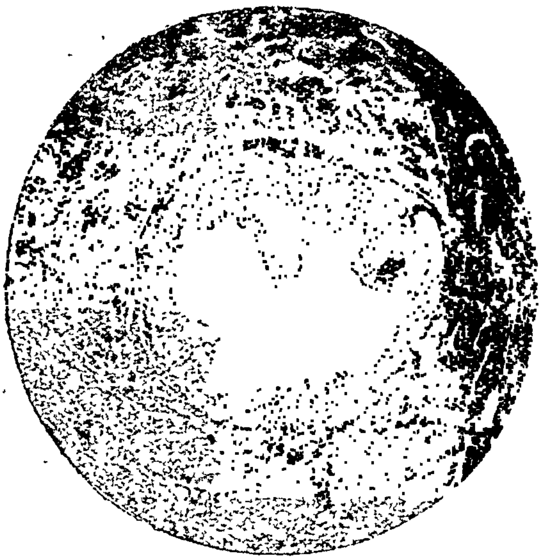
On Sept. 12th the patient came to see me at the hospital. Her general condition was good. A slight show of blood had been noted on the previous day, the first indication of a period since the operation. The abdomen was flat and free from tenderness. The cicatrix had completely healed. No trace of any abdominal tumour remained, the right iliac fossa was free; there was no resistant area or gurgling on pressure within its limits. No solid or cystic tumour nor any ill-circumscribed resistant body could be defined in the pelvic cavity. The fusiform body which transmitted menstrual blood and the firm moveable body on its left were now definable as one tough, smooth, irregular structure which could be pushed up to the level of the pelvic brim, slipping down immediately the examining finger was withdrawn. The mobility of this structure was very marked, the segment towards the left was not in the least tender, which would imply that it was the left cornu and not the corresponding ovary. Thus the urachal tumour had disappeared and no hæmatometra had formed, whilst the uterus was reduced to a right cornu which communicated with the vagina yet had no cervix, and most probably a left cornu connected with the right by a membranous band.

By the middle of October the patient was in very good health; she had been able to work for nearly four weeks, and a month later she reported herself as quite able to continue at her duties without feeling pain or fatigue.

I saw the patient once more on Dec. 15th. She was quite strong and able to work. The last period began on Nov. 26th and was moderate. The pelvic condition remained unchanged. Close above the fusiform body I could define the thickened tissue which I detected at the operation. It was slightly tender on firm bimanual pressure. There could be little doubt that it was the right ovary.

Microscopical appearances of the cord between the cyst and the bladder.—A section of the cord-like structure which ran on the surface of the parietal peritoneum between the fundus of the bladder and the cyst was made at the Royal College of Surgeons of England. There could be no doubt that it was a portion of the urachus. Mr. S. G. Shattock reported that the canal was quite patulous and lined with perfect transitional epithelium of the bladder type. The lumen was free from catarrhal or other morbid products. The muscular coat was abnormally thick but showed no evidence of inflammation or œdema. Its inner portion was mostly made up of circular and its outer portion of longitudinal fibres, but there was some irregularity in the direction of the fibres in both portions. Some subperitoneal fat was intimately connected with the periphery of the urachus. The appended reproduction of a photo-micrograph (Fig. 2) shows the above-described appearances of the urachus as seen under the microscope. The urachal canal, according to Wutz, is well developed in young subjects. In this instance it must have been closed at the bladder end, or if not there must have been an efficient Wutz's valve, as the contents of the cyst showed no evidence of being fouled by urine.

FIG. 2.



Section of the segment of urachus which passed between the bladder and the cyst wall as seen under a low power. The canal is quite unobstructed and lined with transitional epithelium. The muscular coat is very thick.

Having related this case, the second in my experience, I will now turn to the anatomy of the urachus, dwelling on certain peculiarities of importance in respect to the surgery of urachal cysts.

THE URACHUS.

The surgical anatomy of the urachus deserves more attention than it has hitherto received in this country. There is no necessity for us to slight the embryologists, indeed we can take on trust what A. Keith, Ballantyne, Bryce, Cunéo and Viau, and other authorities teach us, being fairly convinced that the urachus is developed from the allantois. There is likewise no need for us to disparage the labours of Bland-Sutton, Byron Robinson, Freer, and others who have demonstrated the pathology and surgery of urachal cysts and urachal fistulæ under their own observation. Let us rather turn our attention to a matter intermediate between embryology and pathology, in other words, let us study the anatomy of the urachus as revealed by special investigation of human subjects other than patients suffering from distinct disease of that interesting embryonic relic. Then, perhaps, we shall be better qualified to understand the pathology, diagnosis, and treatment of urachal cysts.

Wutz, so often quoted, stands first among writers whom we should follow as an example. In reporting my first case I noted his observations on the histology of the urachus based on 74 post-mortem subjects. He found that the epithelial tubular portion grows steadily up to the twenty-fifth year, the canal becoming wider, which is in accord with the appearances displayed by the microscope in the segment of urachus below the cyst in the present case. Passing over histological details, two important statements deserve to be noted. In 24 subjects in Wutz's series there were distinct cystic dilatations of the urachal canal, which contained pus in two instances where the patients had died from septic affections. Of equal importance is Wutz's statement that the vesical orifice of the urachus is guarded by a transverse valvular fold which under normal conditions prevents the passage of urine into the urachal canal. In 1898 I expressed my hopes that these researches would be followed up in this country, but up to the present Wutz has found but few imitators. We want to know more about the valve, for instance. Is it constant? The best recent work after the Wutzian method, as I may call it, has been undertaken by Binnie and Clendenning in America. I will quote in full their summary: "Mr. Clendenning recently examined for me 16 adult cadavers and 7 fœtuses, with the following results:—1. In 7 adults and 6 fœtuses the bladder showed a distinct diverticulum from 1 to 2 cm. deep at the fundus where the urachus is attached. 2. In 1 adult there was a *slight projection instead of a diverticulum.* 3. In 8 adults and 1 fœtus the dome of the bladder was smooth. 4. In none of the cases were there found lacunæ lined with epithelium in the urachus. 5. The average adult urachus was 12 cm. long by 1·5 cm. [*sic.* ? 0·15 cm.] wide. 6. The urachus was usually adherent to the belly-wall, but in one case (diabetic with frequent retention of urine) it was not close to the parietes but lay between loops of small intestine. 7. In all the cases the urachus was well supplied with vessels." Binnie adds: "Early in their development the urinary bladder and the urachus are completely surrounded by peritoneum except on their ventral surface where a meson (meso-cyst [2]) exists. This disposition usually disappears and the urachus becomes extra-peritoneal. That the meso-cyst sometimes persists was well exemplified in an adult cadaver examined for me in which the urachus did not lie close to the abdominal wall but lay between loops of small intestine. The persistence of the meson explains the occurrence of some otherwise puzzling intra-abdominal cysts." This case was the clinical evidence on which Clause 6 in the above summary was based.

The meso-urachus question is of high importance in respect to urachal cysts, especially those which have attained a large bulk. Delore and Cotte's researches were published almost simultaneously with the monograph prepared by the two American writers and, as will presently be related, they claim to have detected and removed a true urachal cyst that was intraperitoneal.

The French authorities quote Cunéo and Viau, who have found that in a section of an embryo 45 millimetres in length the intra-abdominal portion of the allantois and the *umbilical arteries are for the greater part completely invested* by peritoneum. This disposition persists when the allantois has begun to differentiate itself into urachus above and bladder below. It is, however, transitory, and the urachus becomes, as a rule, extraperitoneal in its entire length.

Professor A. Keith, conservator of the Museum of the Royal College of Surgeons of England, informs me that he has on several occasions detected a very considerable mesentery enfolding the urachus in adult subjects. He adds that under these circumstances the obliterated hypogastric arteries have even deeper and better marked mesenteries. Professor G. D. Thane has likewise observed this condition in several adult subjects. In these particular cases there was no evidence, I presume, that the mesentery was acquired, but Professor Keith tells me that he has never chanced to come across a meso-urachus in the new-born infant. Pathological evidence, as I will explain presently, does not lead us to believe that the urachus can acquire a mesentery after fœtal life. Mr. C. B. Lockwood reminds me that different observers are not agreed as to where a "fold" ends and a "mesentery" begins, but admits that the urachus may be invested in a fold of parietal peritoneum.

Thus, on the testimony and experience of independent embryologists, anatomists, and surgeons, we learn that the urachus may possess a mesentery or at least a fold of peritoneum, representing most probably the persistence of an embryonic condition. Still, we wish to know more about this matter and about Wutz's valve, so important in respect to the question of the precise relation of a urachal cyst to a cystic fistula connected with the bladder. Therefore, it were well if some British teacher of anatomy or pathology would follow the good example of Wutz and of Binnie and Clendenning. A series of several hundred subjects investigated after Wutz's method could hardly fail to furnish fresh evidence of high value.

The Urachus and Diverticula of the Fundus of the Bladder.

Although, for reasons given in the introductory remarks at the beginning of this communication, urachal fistula must be dismissed, I may be allowed to say a few words on abnormal prolongations of the urinary bladder upwards. Garrigues discovered, in a single woman, aged 45 years, who died after hysterectomy for fibroid, a bladder prolonged nearly to the umbilicus to which it was connected by a very short urachal tube. Balfour Marshall reports a case where a patent urachus over an inch in diameter formed a tubular prolongation of the bladder and was wounded when an abdominal incision was made for ventrofixation of the uterus, though without bad consequences. I turned attention to these *diverticula* in 1898,[3] and have noted *Binnie and Clen-*[illegible]. The surgeon will hardly trouble [illegible] of the bladder from a patent [illegible] y distinction. What concerns him is the fact that such a structure may be wounded during an abdominal section.

Tait's Pseudo-allantoic Cysts.

In 1898 I showed how the long series of cases reported by Lawson Tait had been misinterpreted by that great surgeon when he ranked them as urachal cysts, excepting one published by himself and Teichelmann in THE LANCET twenty years ago.[4] Several writers, who have apparently never read my criticisms, have recently expressed precisely the same views. Mériel, Binnie, and Delore and Cotte all maintain, as I did, that Tait's series were instances of encysted peritonitis, probably tuberculous, where, as I pointed out, communication between the bladder and peritoneal cavity is not infrequent. I may add that Mr. Tait himself, in a letter about [illegible] me that he had detected [illegible] the cyst wall in one case. [illegible] was a universally adherent ovarian dermoid, or a dermoid tumour derived from some other organ, but urachal it could hardly be. There were no after-histories to these cases and no verification of the relations of the cysts at necropsies. Hoffmann's case, where the cyst contained 50 litres of fluid when opened at the necropsy, was shown by Wutz to be an example of chronic hæmorrhagic peritonitis. The original report was so defective that an absurd error about the sex of the patient was included. Yet Delore and Cotte agree with Hoffmann, though rejecting Tait, and in articles on urachal cysts by living writers Tait's series and Hoffmann's equally spurious case are persistently included, as though they really represented urachal disease. The error seems, like King Charles the Second, a most unconscionable time dying. Let them be henceforth relegated to the archives of chronic peritonitis—in other words, to their proper place.

Cases of Cysts of the Urachus Recently Reported.

Two years ago W. R. Weiser published tables of nearly 90 reported cases of cysts of the urachus. These tables are indispensable for the study of their subject, but they show, as their author admits, that we cannot as yet draw from the literature of urachal cysts any sound conclusions such as may be inferred from published series of the ligature of big arteries for aneurysm, or Wertheim's operation, where at least there was always the aneurysm or the cancerous uterus to begin with. Weiser includes Tait's and Hoffmann's spurious cases and a considerable number of examples of cystic fistula, two being in his own practice.

Weiser's second case seems an authentic instance of a pure urachal cyst. It bore some relation to my own as it occurred in a young subject (a girl, aged 11 years). It gave rise to an acute attack of abdominal pain, headache, vomiting, and fever, and was markedly unsymmetrical. There was impaired resonance between the umbilicus and pubes from the left loin to about two inches to the right of the median line. When the abdominal incision was made the parietal peritoneum was found investing the posterior aspect of a large cyst which was connected inferiorly with a duct running into the bladder and patulous, let it be noted, to within three-eighths of an inch of the vesical cavity. The cyst almost filled the left side of the abdomen below the level of the umbilicus; it contained pus and had ruptured at one point into the peritoneal cavity. As much of the sac as could be dissected out without tearing through the parietal peritoneum was taken away, the cavity left behind was washed out and drained with iodoform gauze, and the patient recovered. Let it be noted that before the operation tuberculous peritonitis was suspected.

Whilst Weiser's own case is well reported, as I have [illegible] seen at a glance.[5] Let us trust that the next writer who takes the trouble to tabulate all recorded cases of urachal dilatation will carefully group under separate headings: (1) fistulæ; (2) primary cystic fistulæ communicating from the first with the bladder or opening at the umbilicus; (3) pure urachal cysts (the subject of this communication); and (4) secondary cystic fistulæ, developed from pure cysts which have acquired communications with the bladder or umbilicus. Surgicall [illegible] fourth as well as the second must be [illegible] from the third, hence I will pass over all statistics and will now proceed to the consideration of cases of pure urachal cyst published during the last ten years, but not included in Weiser's tables. That writer, I must add, omitted Bryant's two cases which were appended to my monograph in 1898. The first was a pure cyst in a woman, and simulated an ovarian tumour, the second was a cystic fistula, primary or secondary, in a male patient.

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[2] This expression, meaning, of course, mesentery of the bladder, is best discarded, lest it should be taken to signify the mesentery of a urachal cyst.

[3] [illegible] Medical and Chirurgical Society, [illegible]

[4] [illegible] us; Abdominal Section; Recovery: [illegible]

[5] [illegible] se of cystic fistula reported by Unterberger. A woman had a bad fall during the first month of pregnancy. Acute backward displacement of the uterus occurred, the

The recent cases which I will now dwell on were under the observation of surgeons who, like myself, have enjoyed the advantage of studying the experience of others, and were thus the better able to avoid the fallacies which beset the original observer. It happens that these recent cases form a group fairly typical of every variety of pure urachal cyst, sessile on the bladder or separate, extraperitoneal or provided with a mesentery, incipient, moderately developed, or large—a most instructive series, in fact. We need not dwell on cystic dilatations detected in fœtal bodies, but as surgeons we must not disregard certain records of the accidental detection of small urachal cysts in the course of operations.

Small Cysts Detected at Operations.

Morestin, a few years ago, operated upon a woman, aged 24 years, removing a suppurating Fallopian tube. When making the abdominal incision he brought to light two cysts too small to be detected by palpation. One lay above the other in juxtaposition but independent, and they occupied the middle line behind the recti and in front of the peritoneum. The urachus could be seen running from the fundus of the bladder into the lower cyst and from the upper cyst to the umbilicus. The cysts did not adhere to the peritoneum behind them. They were tense, smooth, globular, and transparent. One was opened and found to contain a limpid, colourless fluid. The outer wall consisted of connective tissue, the inner was lined with pavement epithelium. Let it be noted that there was no trace of a meso-urachus, nor in either of the cysts which I have described, which were both of moderate size, was the tumour invested with peritoneum except posteriorly. This fact would lead us to believe, as was mentioned above, that a urachal cyst does not make for itself a mesentery as it develops. When a urachal cyst is intraperitoneal the urachus most probably had a mesentery before the cyst existed.

Again, we see that Morestin operated for pyosalpinx, a suppurative condition which was localised. When that condition is more diffused an incipient urachal cyst may be involved, as in two instances recorded by Wutz, to which I have already referred. Hence, it is always possible that an abscess in the middle line below the umbilicus may have developed in the urachus. Lastly, Morestin's cysts probably represented an incipient bilocular urachal cyst, like that which I described in 1898.

Mériel of Toulouse laid open a cyst of the urachus when performing a cystotomy for retention of urine. Its walls were thin, but distinctly thicker towards the bladder,[6] into the fundus of which it was inserted. The cyst had three walls, the outer of connective and fibrous tissue, the middle muscular, and the inner thin and smooth.

Lastly, the experience of Opitz is interesting to all who undertake abdominal sections. When performing what he calls a *relaparotomie*, in other words, when repairing an incisional hernia, he exposed a small cystic body which at first sight appeared to be a displaced and adherent vermiform appendix. On closer examination there could be little doubt that it was a urachal cyst. If so, it would seem that a segment of the urachus where the canal happened to be unobliterated was involved in cicatricial tissue at its upp and lower limits, the canal subsequently undergoing dilation owing to a collection of fluid and broken-down e thelium in its lumen. The main interest of this case however, as in Balfour Marshall's experience alrea mentioned, the manner in which the vagaries of t urachus and fundus of the bladder may puzzle the operat Whilst the little cyst in this instance simulated a vermifo appendix, the big cyst in my own case gave rise to sympto indicating appendicular abscess.

Cystic Tumours Removed by Operation.

In 1899 E. D. Ferguson operated on a man, 47 years age; his original report is very carefully written. T tumour rose to two inches above the umbilicus and extend laterally to the iliac spines. Its surface was flat, resista on pressure, and felt as though in the abdominal wall, y malignant disease of the omentum was suspected. T chief symptoms were hypogastric pain and frequent desi to pass urine. It proved to be a cystic tumour containi over two quarts of a watery fluid, which unfortunately w not examined; it was intimately connected with the wall the bladder and extended deeply into the pelvis, where t peritoneum lay behind it. Ferguson dissected away t whole lining membrane of the cyst, excepting at t umbilicus, where he found digital processes penetrating t tissues of the abdominal wall. "That portion of th posterior part of the cyst which could be placed in a fol and allow easy approximation of the peritoneum was stitch together and excised." The upper part of the abdominal i cision, close to the umbilicus, was drained with gauze and t remaining portion carefully sutured. Six months after t operation the abdominal cicatrix was found to be perfect sound.

Delore and Cotte's intraperitoneal urachal cyst, to which have already referred, is reported in their instructive mon graph on big cysts of the urachus. The patient was a gi aged 20 years, very sickly, and believed to be the subject tuberculous peritonitis of the ascitic type. There w uniform distension with distinct fluctuation. A large cy was exposed when the parietal peritoneum was incised; descended into the pelvic cavity. It contained blood-staine fluid and fibrinous masses, and when it was emptied an drawn through the abdominal incision Delore found that was connected below with the fundus of the bladder by short cord which formed an entirely extraperitoneal pedic and was clearly the lowest portion of the urachus. Whe the cord was divided the cyst was free of all connexions wit the patient's body. The broad ligaments and other peritoneal folds near the cyst were normal. The patient made speedy recovery. The outer wall of the cyst was the muscular coat of the urachus; the inner wall had been great altered and deprived of its epithelium by inflammator changes. The authors describe minutely how they found o careful dissection that the cyst was invested over the whol of its extent by the peritoneum, and that at the level of th attachment of the cord connecting it with the bladder thi fold of serous membrane ceased. A tough cord ran fro the pedicle over the anterior surface of the cyst and was los in the tissues of the tumour and abdominal wall at the leve of the umbilicus. In its middle portion this cord, like th cyst, was completely intraperitoneal. There can be littl doubt that Delore and Cotte's tumour was a cyst develope in a urachus which possessed a mesentery, an exception condition observed, however, as above mentioned, by mo than one writer in adult subjects where the urachus wa otherwise normal. The authors are probably correct in the theory that it represented the persistence of a fœtal co dition. That, on the other hand, a meso-urachus can b acquired is very doubtful, for reasons given above i reference to Morestin and Mériel's incipient urachal cys in adults.

The last in this series of recent cases has hitherto bee unpublished. Mr. F. S. Eve has presented to the Museum c the Royal College of Surgeons of England a unique specime of cystic sarcoma of the urachus and has kindly supplied m with the following notes:—

> A man, aged 38 years, was admitted into the London Hospital with [illegible] noticed for several weeks and associate [illegible] A cystic tumour filled the lower part c [illegible] he right, where it extended towards th [illegible] he pelvis. On puncture dark blood cam away; a few days later a rigor occurred with vomiting and a rise c temperature to 104°. Mr. Eve then operated, exposing a large cysti

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bladder became distended, and at length urine passed entirely through the umbilicus. Rupture of [illegible] cted, but a catheter passed into the [illegible] through the urethra. The uterus r [illegible] d at the fifth month. Unterberger gives a good summary of cases of urachal fistula and cystic fistula.

[6] *Vessie* is misprinted *veine* in the original report.

tumour, the parietal peritoneum was reflected over its anterior and superior surface Five pints of dark bloody material were removed

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could be made to pa

fourth day There

peritoneum had bee

been applied

Mr Eve examined the specimen and found that it was a large allantoic cyst separated from the posterior superior surface of the bladder by nothing except a very much thinned mucous membrane Their cavities, however, did not communicate The inner wall of the cyst was lined at certain points with very vascular polypoid masses which proved on microscopical examination to be sarcomatous The most unusual feature of this cyst was its malignancy, but its peritoneal relations were of greater importance in respect to the subject of this communication

Aveling and Bland Sutton have already reported a case of multilocular myosarcoma of the sheath of the urachus, but it did not involve the urachal canal and was quite unconnected with the bladder. The specimen No 417B in the pathological series of the Museum of the Royal College of Surgeons of England was supposed, when first examined, to have developed in the urachus, but Mr J H. Targett considered that it was a myxo sarcoma which originated in the connective tissue surrounding the bladder

Mr Eve's cystic sarcoma seemed to possess a partial peritoneal investment, as in Delore and Cotte's case, but it was sessile on the bladder, whilst in the latter case the cyst was separated from the bladder by a segment of urachus In the instances of extraperitoneal urachal cyst above noted the tumour was sessile on the bladder in E D Ferguson's case, and so also was the bilocular cyst which I reported in 1898 On the other hand, in the case which is the subject of this communication the cyst and the bladder were separated by a segment of urachus These opposite relations of cyst to bladder were demonstrated respectively in the incipient tumours discovered by Morestin and Mériel

The malformation of the genitals, a unique feature in my case, deserves a little consideration After discussing it I will dwell once more on the extreme asymmetry of the cyst which together with the inflammatory complications in its neighbourhood simulated appendicular abscess In conclusion I will comment on the surgery of pure urachal cysts

Relation of the Urachal Cyst to the Arrested Development of the Genital Tract

In my case it was clear that there was not a cystic urachal fistula but a pure urachal cyst which was separated by a short cord, the lowest part of the urachus, from the bladder There was no evidence of malformation of the bladder itself, its fundus and anterior portion as well as the urethra were normal, nor was there any sign of abnormality in the ureters sufficient to interfere with their functions The structures making up the vulva were also well developed and the lower part of the vagina was present, nor had either genital gland strayed into the inguinal canal On the other hand, the upper part of the genital tract showed marked arrest of development The short canal, which transmitted menstrual blood into the right side of the blind end of the vagina, represented the upper part of the vagina, the cervix, and more or less of a right uterine cornu with its endometrium The firm, moveable body above and behind the blind end of the vagina was most probably the left cornu connected with the right by a thin band, as is not rarely seen in cases of uterus unicornis in parous women These relations were not difficult to define after the patient had recovered from the operation, and no cyst remained to interfere with bimanual palpation I admit that the body which felt like the left cornu might have been the left ovary, in which case the cornu would more probably be suppressed altogether I made out during the operation an ovary like structure close to the right cornu The presence or absence of the Fallopian tubes and the disposition of the pelvic peritoneum remain mysterious, though there was no trace of a hæmatosalpinx or a hæmatometra Although there were no external signs of hermaphroditism, I cannot say positively that both genital glands must have been ovaries Dr A. Broca recently operated for double inguinal hernia on a subject who was a female according to all external appearances [7] The vagina, clitoris, and hymen appeared normal, yet both genital glands were true testicles Each occupied a hernial sac

Some pathological change early in fœtal life must have caused the two abnormal conditions Professor Keith in his recent museum demonstrations at the Royal College of Surgeons of England explained how there was every reason to believe that disease of adjacent maternal structures, such as endometritis, prejudicially affects the normal evolution of fœtal elements derived from the allantois, and the same may be said of the gradual conversion of Muller's duct into Fallopian tubes, uterus, and vagina For the cystic condition of the urachus and the arrested development of the uterus in my case there must have been a common cause The urachal cyst presumably represented in a very mitigated form the arrest of development known when extreme as ectopia vesicæ [8] In this distressing variety of malformation and also in complete ectopia of the abdominal viscera non union of Muller's ducts has repeatedly been observed (E Chill, Author) According to A Keith the uterus is double in one out of six specimens of ectopia vesicæ in London museums, whilst in seven specimens of ectopia in females combined with an open yolk sac Muller's ducts are unfused in all

The faulty condition of the genital tract in my case was of little surgical interest, as it was not of a kind such as could be remedied by the knife or by some plastic procedure It was the condition of the urachus which demanded operative interference

Asymmetry of Urachal Cysts

In the present case the cyst lay in the right iliac fossa, the middle line forming its limits to the left Some intestine was adherent to the cyst on the right, so that there was resonance on percussion, and there was likewise local pain and tenderness Thus an asymmetrical urachal cyst may simulate appendicular abscess

Arguing without clinical evidence we might conclude that a urachal cyst would develop symmetrically This conclusion, however, is belied by experience In the remarks on recent reports given above it was noted that in Weiser's case the cyst filled the left side of the abdomen, whilst Eve's cystic sarcoma lay mainly to the left The cyst removed by Douglas of Nashville in 1897 was also asymmetrical, distending the abdomen chiefly to the right

This asymmetry becomes less surprising when we remember that it often exists from the beginning Delore and Cotte, speaking of minute urachal cysts as described by pathologists, observe that these dilatations sometimes involve the entire lumen and circumference at the point of the urachus where they develop, but that as a rule they affect only a portion and form true diverticula, which may become completely isolated from the canal of the urachus Thus the pathology of this asymmetry is very clear and its clinical importance quite evident.

Association of Urachal Cysts with Peritonitis

The symptoms of peritonitis in this case, where there was a conspicuous swelling in the right iliac region, indicated appendicular abscess Peritonitis had developed around an asymmetrical cyst of the urachus The first attack of pain occurred at a menstrual period, so that when the atresia was detected I naturally suspected retained menses But the

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is condition In Bryant's

fistula (*vide s pra*) there

swelling did not increase during the next monthly period when the patient was under my care, and I found at the operation that it was not a hæmatometra or a hæmatosalpinx. We must therefore turn back to the local peritonitis. The patient in this case was evidently exposed to some unfavourable influence which caused peritonitis around the cyst.

In my first case, reported in 1898, the patient, aged 59 years, had been subject for nine months to pain in the lower part of the abdomen; the cyst was then detected, and symptoms of peritonitis came on periodically until two months later, when I operated. I find on referring to my original case-book that the menopause had become complete over nine years before—that is, when the patient was about 50. In fact, there is no reason to believe that the catamenia had anything to do with either case. In both I found omental and intestinal adhesions to the parietal peritoneum lining the back of the cyst. Other writers, Delore and Cotte, Weiser, &c., have reported similar complications. Indeed, peritonitis seems to be the rule when a urachal cyst has reached proportions sufficient to give rise to symptoms leading to its detection.

These symptoms appear very irregularly, which is one reason why *encysted dropsies* and *tuberculous peritonitis* are so apt to be confounded with urachal cysts. The error of mistaking the former for the latter, into which Hoffmann and Tait fell, has, as I have been at some pains to explain, greatly impaired the value of statistical records of urachal tumours.

Age.—In the present case the patient was 17 years of age, in Weiser's she was only 11 years, and in Delore and Cotte's 20 years. Urachal cysts are relatively frequent in young girls, and as they are likewise subject to tuberculous peritonitis and to inflammation of the vermiform appendix we can see how easily errors of diagnosis may occur.

Surgical Treatment of Pure Urachal Cyst.

Any communication between the interior of a urachal cyst and the cavity of the bladder, or the surface of the body at the umbilicus, greatly increases the difficulties and dangers of operative measures. It is partly on that account that I have confined my observations almost entirely to pure urachal cysts. Whenever it seems fairly clear that a cyst of this kind can be extirpated without the dangers of dissecting in the dark amidst uncertain relations posteriorly the radical operation should be undertaken. This, however, itself not free from risk even under the most favourable circumstances, is not always possible, as shown by the reports of many surgeons, whilst in the present case the posterior wall, for special reasons already given, could not have been safely separated from the abnormal structures in close relation to it. We must remember that in urachal fistula the insertion of the ureters into the bladder may be abnormally high (Mikulicz), and we are dealing with a malformation closely related to fistula. The surgeon must in many cases be content with partial measures which, as I have explained, were successful in Weiser's, E. D. Ferguson's, and my own two operations. As much as possible of the inner lining membrane must be dissected away; in the present case this was readily effected, but in my 1898 case it was impracticable, the membrane having been destroyed by degenerative changes. Partly on that account and partly because the tumour was bilocular I found drainage necessary. A sinus developed but closed within six months, nor did it ever open again. The patient died from cancer of the pylorus and pancreas six years later. In the present case there was no indication for drainage. The firm and fairly thick main wall of the cyst, fibromuscular or purely fibrous, is very favourable for treatment by whip-stitching or any similar plastic procedure suitable according to circumstances.

During the operation, complete or partial, the surgeon must always carefully ascertain the relations of the cyst to the bladder. If the cyst be sessile it may be impossible to remove it without damage to the walls of the bladder, which will therefore require repair by suture. When, on the other hand, the cyst is separated from the bladder by a segment of urachus, it must be remembered that the segment may have an open canal communicating with the bladder. The microscope showed that in the present case (Fig. 2) it was open, although there was no proof that it actually ended unobstructed in the bladder. Lest a urinary fistula should develop, as appears to have happened in a case described by Ill many years ago, that writer treats the divided segment as though it were a vermiform appendix, turning in its cut edges and applying a Lembert suture. In the present case I transfixed the segment and tied it as though it were a pedicle of an ovarian cyst. In any case, it should not be tied without transfixion as though it were an artery. The loop might easily loosen or come away, and the canal would then be patulous. We know that this may happen when the stumps of both Fallopian tubes have been ligatured in a double ovariotomy, as pregnancy has followed, which means that the canal of one tubal stump must have transmitted an ovum from the relics of one ovary. Should the ligature come away from the urachal stump a urinary fistula of a very bad type would develop if Wutz's valve were forced open by over-distension of the bladder. The risk of such a complication under these circumstances, and the fact that a pure urachal cyst in males is occasionally converted into a secondary cystic fistula full of urine, reminds the surgeon that, as I have already remarked, we ought to be more sure about Wutz's vesico-urachal valve, or whatever it may be, that really protects the vesical orifice of the urachus.

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THE ALCOHOL INJECTION TREATMENT FOR NEURALGIA AND SPASM.

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THE treatment of trigeminal neuralgia, or "tic douloureux," by means of drugs, electricity, vibration, percussion of the nerves at their points of exit from the foramina upon the face, and other devices of various kinds has always proved a failure in genuine severe cases of this extremely painful disease, ever since Trousseau 50 years ago drew attention to it under the title of "epileptiform neuralgia." Peripheral injection of the painful spots by means of osmic acid, chloroform, cocaine, &c., has given relief for short periods, varying from hours to a few weeks, but hitherto real relief has only been obtainable by means of surgical aid. Resection of the various branches of the fifth nerve, either peripherally at their points of exit from the foramina upon the face, or more centrally in the zygomatic fossa, or intracranially, has brought relief from the pain for several months or even years, the results being generally better the nearer the resection is done to the Gasserian ganglion. Permanent cure does not result from resection, as with the regeneration of the nerve fibres and consequent disappearance of the anæsthesia on the face which was produced by the division of the nerve the pain returns eventually with equal or greater severity, probably being hastened in some cases through the irritation of the nerve by the cicatricial contraction of the scar tissue resulting from the cutting operation. This scar tissue produced by resection operations makes a second operation at the same spot practically impossible, and consequently, when the spasms of pain return owing to the regeneration of the nerve it will be necessary to resect the nerve at a point nearer to the skull, or even intracranially Owing to the unsatisfactory results on the whole of resection the operation of extirpation of the Gasserian ganglion was devised and in the hands of skilful surgeons permanent relief from the pain has been obtained in a considerable number of cases It is, however, a very difficult operation to remove the ganglion completely, and, if only partially removed, the pain may continue unabated, or may return later The severity of the operation is, moreover, indicated by the percentage of deaths resulting from it, even in the most experienced hands, and the scarring and deformity produced by the operation are also disadvantages

It is owing to the introduction by Schlosser in 1903 of his method of deep injection with 80 per cent alcohol of the main trunks of the fifth nerve at their points of emergence from the skull that the principle of resection is again justified Injection of a nerve with alcohol of over 70 per cent strength causes immediate paralysis of the functions of the nerve, with the setting up of a degenerative neuritis extending from the point of injection to the periphery With a purely sensory nerve, such as the superior maxillary, the second division of the fifth nerve, anæsthesia will be produced over the area of the skin of the face and mucous membrane of cheek and gum supplied by the nerve, with at the same time more or less œdema of the skin If a mixed motor and sensory nerve is injected with the alcohol, such as the median or the sciatic, motor paralysis as well as anæsthesia will result—a fact to be clearly borne in mind when applying this treatment to such mixed nerves

This method of local destruction of the nerve fibres by deep injection of the nerve trunk with strong alcohol is in reality an extremely elegant method of resection of the nerve, and the after history of the cases is somewhat similar, inasmuch as regeneration of the nerve fibres takes place after several months, the anæsthesia gradually disappears, and in cases of severe trigeminal neuralgia the attacks of pain are likely to gradually reappear, the interval of freedom from the pain varying from four or five months to as long as 18 months or more The great advantage of the deep injection method over resection of the nerves lies in the absence of scarring and the consequent fact that injection of the nerve may be repeated at the same point an indefinite number of times Moreover, it is probable that after resection of a nerve the formation of scar tissue in the wound irritates the central end of the nerve after division and surrounds the new nerve fibres after regeneration, thereby tending to shorten the period of relief after division of the nerve, and also ultimately to increase the pain from irritation This factor is absent with the injection method as the track of the needle leaves practically no scar, and the point of entry of the needle on the cheek is in most cases impossible to identify a week after the injection Schlosser has also found, after an experience of 123 cases of trigeminal neuralgia treated by this method, many of them repeatedly injected at intervals for recurrence of the pain, that practically every case can be relieved by this procedure, that the average period of relief from pain obtained is over ten months, and that the interval of relief from pain obtained lengthens after each successive injection These facts alone are sufficient to warrant an extended trial of the method, and it has been a matter of surprise to me that no literature on the subject has appeared in this country, and that when I first began to use this treatment last August I could hear of no one else who had tried it, and indeed very few who had as much as heard of it On the Continent and in America many are using the mode of procedure, with apparently the same success as did Schlosser, and good descriptions of their modifications of the method of deep injection have been published in Paris by Ostwalt, and by Brissaud and Sicard

In the October (1908) number of the *Practitioner* in my review of neurological literature I gave a description of the treatment, and on Feb 25th, 1909 I read a paper on my experiences of the method on 13 cases before the Neurological Section of the Royal Society of Medicine, demonstrating the method on the skull, and I also showed two patients, both subjects of trigeminal neuralgia affecting the left second division of the fifth nerve, whom I had injected with alcohol four and a half months and three weeks previously respectively, with complete disappearance of the pain in each case Up to the present time I have used the alcohol injection treatment in 17 cases, six of which are cases of paroxysmal trigeminal neuralgia

Trigeminal neuralgia —In one case only, one of my earliest cases, did I fail to relieve the pain, due to my failing to reach the foramen ovale through faulty technique In this case the pain was mostly in the third division, affecting the lingual nerve, in a woman, aged 55 years, who had been subject to the attacks of pain for the past 17 years, for part of the time the pain being bilateral, a very rare condition in trigeminal neuralgia In each of my other five cases the pain has been immediately relieved, though the last case was done so recently as a week ago that it is premature to speak yet of a cure Of the remaining four cases, one patient—a case of 11 years' duration in a woman, aged 63 years, affecting the left second division of the fifth nerve—has had five months relief from her attacks of pain since I injected the left infra orbital nerve and the palatine foramina in October last This was followed by complete anæsthesia of the cheek and palate, with complete disappearance of the pain, which was so severe, and the attacks of which were so frequent, that she said she thought she "would have gone mad The attacks of pain were started by eating, talking, touching her nose or upper lip, or would come on spontaneously, especially at night During the last month the anæsthesia has been gradually lessening on the upper lip and cheek, and the attacks of pain are commencing to come on again, though not yet with such severity as formerly She has asked me to inject the nerve again, and this time I shall inject the superior maxillary nerve close to the foramen rotundum, in addition to again injecting the infra orbital nerve and the anterior palatine nerve By attacking the main trunk of the nerve close to the skull, as well as destroying it peripherally, the period required for regeneration of the nerve fibres, and the consequent relief from the attacks of pain, is likely to be longer, and I shall hope to obtain for her not less than six months', and possibly longer, freedom from return of the pain Of the remaining three cases, one was a case of three years' duration of spasms of pain affecting the right third division of the fifth nerve in a woman aged 78 years Early in December I injected 80 per cent alcohol around the foramen ovale, causing complete passing away of the pain In this case the injection was perineuritic, not into the substance of the inferior maxillary nerve Consequently, although a certain degree of numbness along the jaw was produced, there was no anæsthesia, and yet the attacks of pain completely subsided, although before the injection they were so severe and frequent that scarcely any food could be taken, and that only in a liquid form

Another case of epileptiform neuralgia, affecting the left second division of the fifth nerve, occurred in a woman, aged 40 years, who had suffered severely for six years I saw her in several of the attacks of pain, the most severe and intense that I have ever witnessed The slightest touch on the upper lip or side of the nose would start an attack, causing her to scream out, to clasp her hands to her head, and to moan and rock with the pain for about three quarters of a minute In such a case it appears to me, it would be more than brutal to attempt to inject without employing a general anæsthetic, though it is the practice of all the continental and American workers, following Schlosser, to use no anæsthetic Eight weeks ago under chloroform I injected the second division of the fifth nerve of this patient at the foramen rotundum with 15 minims of 80 per cent alcohol, and also injected a few minims into the infra orbital foramen The result was perfect there being complete loss of pain and inability to start it in any way by rubbing the skin of the face, blowing the nose, or any of the movements which formerly infallibly induced the attacks There was considerable œdema of the cheek and upper lip for three days, which then disappeared completely, though the anæsthesia of the area of skin and mucous membrane supplied by the superior maxillary nerve remained complete

Another case of trigeminal neuralgia affecting the first or ophthalmic division on the left side, in a woman, aged 54 years who had suffered from recurrent severe spasms of pain over the eyebrow for the past eight years, was completely relieved after two injections at the supra orbital notch mental foramen and under the skin of the outer portion of the eyebrow and forehead Although the pain was limited to the ophthalmic division of the nerve there was a sensitive area on the left side of the chin in front of the mental foramen, pressure on which, or sometimes even touching, would start the supra-orbital pain. At the first injection with alcohol I had overlooked the fact that there was an area on the outer part of the eyebrow which was very sensitive, though less so than the region of the supra-orbital notch, and it was not until the pain and sensitiveness of the supra-orbital region and the chin had passed away as the result of the first injection that I became aware of this painful area on the outer portion of the forehead, pain in which was started by rubbing the skin of the upper eyelid or the eyebrow. A second injection under the eyebrow and again of the supra-orbital nerve made this region also anæsthetic, and all the attacks of pain were completely subdued.

In addition to these cases of true trigeminal neuralgia, I have also treated three cases of severe recurrent supra-orbital neuralgia, post-influenzal in origin, with injection of alcohol and eucaine around the supra-orbital notch. In each case one injection has been sufficient to relieve the pain at once, causing anæsthesia of a patch of skin above the eyebrow. The characteristic of these post-influenzal supra-orbital neuralgias is their daily recurrence, usually starting about 10 o'clock in the morning, reaching their maximum intensity of pain after an hour or two, and dying away after 4 P.M. or 5 P.M. The pain is often intensely severe, though it differs from true trigeminal neuralgia in the long continuance of the attack, the spasms of pain in trigeminal neuralgia rarely lasting more than from one-half to three-quarters of a minute. If untreated, these post-influenzal supra-orbital neuralgias may recur daily for three weeks or longer. After the alcohol injection, although the pain is almost instantaneously relieved, a neuralgic attack may return about three hours later after the action of the eucaine has worn off. This is at once controlled by the administration of a dose of pyramidon and effervescing caffein citrate, and there is usually no further pain, though sometimes a second injection is required.

Pain in the face due to implication of the branches of the fifth nerve by cancer of the tongue or tonsil, or by growths at the base of the skull, may be relieved completely by deep injections of alcohol into the second or third division of the fifth nerve at the foramen rotundum or foramen ovale. I have thus completely relieved two such patients.

One patient was a man, aged about 46 years, who was suffering from a tumour at the base of the skull, probably involving the sphenoid bone. He became gradually blind from optic atrophy, and later developed paralysis of the left external rectus, and began to suffer violent pain in the face on both sides, with anæsthesia of the right cheek. The pain became almost unbearable, and as anti-syphilitic treatment did no good, I injected both infra-orbital foramina with 80 per cent. alcohol. This completely relieved his pain for the time, but later pain was felt along the left lower jaw, indicating the extension of the growth to involve the left inferior maxillary nerve. I therefore, under an anæsthetic, injected the left inferior maxillary nerve at the foramen ovale with alcohol, and the patient when last heard of had remained quite free from pain for several weeks.

The other case of inoperable carcinoma of the tongue was that of a patient who was sent to me from the surgical out-patients at St. Mary's Hospital because of the severe pain from which he was suffering in the left side of the tongue and jaw. Without using any anæsthetic, I injected the left inferior maxillary nerve at the foramen ovale with 80 per cent. alcohol, causing anæsthesia of the chin and complete loss of the severe pain.

Three cases of *clonic facial spasm* I have also cured by injection of alcohol around the exit of the facial nerve from the stylo-mastoid foramen. This causes slight paresis of the nerve, but brings about immediate cessation of the clonic spasms of the facial muscles. If the nerve is actually punctured and injected with the strong alcohol, complete facial paralysis will be produced, though this will be recovered from in two or three months.

Sciatica may be successfully treated by injections of strong alcohol, though I am quite convinced that the injections must be perineuritic, not into the substance of the nerve. I have proved that the injection of five minims of 80 per cent. alcohol into the median nerve causes paralysis of the flexors of the fingers and of the radial flexor of the wrist, followed by reaction of degeneration in these muscles, in addition to analgesia of the median distribution on the hand. Cases have also been published of paralysis of the leg following an alcohol injection into the nerve, and these, together with Finkelnburg's experimental work on the same point, completely disprove Schlösser's statement that he injects 15 minims or more into the sciatic nerve for sciatica, curing the pain without causing any paralysis. What he really does, no doubt, is to inject the alcohol around the sheath of the nerve, not into the nerve itself, and this perineuritic injection may be sufficient to relieve all pain, as indeed occurred in one of my cases of trigeminal neuralgia, affecting the right third division of the fifth nerve quoted above. Such a perineuritic injection of 80 per cent. alcohol I made recently in a case of sciatica of seven weeks' duration, bringing about immediate relief from the pain. The actual injection of the alcohol is somewhat painful, but the pain passes off after a few seconds. The actual insertion of the needle may be made practically painless by freezing the skin with ethyl chloride. The nerve lies at a depth of from two to three inches from the surface at the lower gluteal fold, which is generally the best point to choose for the injection. No general anæsthetic should be given owing to the danger of puncturing and injecting the nerve itself, and the patient's sensations will be the guide as to when the point of the needle reaches the sheath of the nerve, practically no pain being felt after the skin puncture until the sciatic nerve itself is reached. It is not always an easy matter to hit off the nerve, and those who imagine that they are treating sciatica by acupuncture of the nerve by thrusting from four to six needles into the nerve, are, I am sure, deluding themselves; most, if not all, of the needles do not hit the nerve at all, but pass to one side of it. I have proved this several times in the post-mortem room by attempting to inject the sciatic nerve at the lower gluteal fold with methylene blue and then dissecting down to my injection, and have found almost invariably that my injection has been to one side of the nerve, once as much as an inch and a half to one side However, the nerve may be hit, and therefore I think it necessary that no general anæsthetic should be used, as the point of the needle must feel for the nerve, and the patient's sensations of pain down the leg will be the guide when the sheath is reached.

Technique for trigeminal neuralgia.—In all cases of trigeminal neuralgia all tender spots, irritation of which gives rise to the pain, should be injected subcutaneously with several drops of the 80 per cent. alcohol. This is a comparatively simple procedure. Next, the various superficial foramina, such as the mental foramen for the third division, the infra-orbital foramen for the second division, and the supra-orbital notch if the ophthalmic division of the nerve is affected, should also be injected with a few drops of the alcohol. Of these the mental foramen is the most difficult to hit. Other foramina that may also be injected in suitable cases are the inferior dental, the palatine, the malar, and the anterior ethmoidal for the nasal branch of the first division. For the inferior dental a strong curved needle must be used and it may be reached either round the back of the ascending ramus of the mandible or from within the mouth.

Deep injections of the second division of the fifth nerve in the spheno-maxillary fossa at the foramen rotundum and of the inferior maxillary nerve at the foramen ovale require a great deal of practice. This must be acquired first upon an articulated skull and then in the post-mortem room. Many different articulated skulls should be studied in order to become familiar with the bony variations that are liable to be met with in the zygomatic fossa and in order to become acquainted with the varying depth of the foramina from the surface in different sized skulls. Although general directions can be given for reaching these two deep foramina, unless absolute familiarity with the base of the skull in this region is attained to the degree of being able to call up a mental picture of the parts, and thus recognise what the point of your needle is doing, frequent failure is sure to result and great damage may be done. In order to attain the certainty of placing my injection in the foramen ovale, or foramen rotundum, I have found it necessary to practise on a large number of articulated skulls and in over 60 bodies in the post-mortem room, using methylene blue for my injection in the latter, and tracing the course of the injection after taking out the brain. My methods are, roughly, as follows.

For the *foramen ovale* I use a moderately stout hollow needle, 1·2 millimetres in diameter, with a short point, without a stylet. This is pushed through the cheek below the zygoma, on a line joining the ala nasi with the incisura notch of the ear, and about 1¼ inches in front of this notch. If pushed in horizontally the point of the needle will sometimes strike the ramus of the mandible just below the sigmoid notch, but depressing the handle of the needle slightly will allow the point to slip through the lowest level of the sigmoid notch into the zygomatic fossa. Directing the needle slightly upwards and backwards the base of the skull will be reached at a depth of about 1¼ inches, the point of the needle striking the under surface of the great wing of the sphenoid. The handle of the needle must then be depressed and the point of the needle be made to slide along the bone until it engages in the foramen ovale, at a depth usually of 1½ inches. In some skulls the needle must be directed more upwards, as high as 30 degrees upwards, and in others it must be directed at the same angle backwards. If the needle is pushed in too horizontally the wall of the pharynx will be pierced at a depth of from 2 to 2¼ inches, or again, if it be pushed too far through the foramen ovale, the cavernous sinus and internal carotid artery will be punctured. To avoid this the needle should never be passed through the foramen to a greater depth than 2¼ inches from the surface, even in those cases where it is thought advisable to inject the ganglion itself. If the neuralgia is limited to the third division of the nerve it will be sufficient usually to inject the nerve itself at the level of the foramen, without passing the needle through into the ganglion. Brissaud and Sicard adopt the landmark of the posterior edge of the external pterygoid plate, which will be struck at a depth of about one and a half inches, and then feeling with the point to its upper and posterior edge, when the needle will slip back into the foramen which lies immediately behind it. They also sink the needle in nearer to the zygoma. This line has two disadvantages, as the direction of the needle must be altered after it has been sunk deeply, which is not always easy to do with the fine needle they use, and, more important, the needle is likely to be caught under the pterygo-spinous ligament, and thus prevented from reaching the foramen ovale at all. Sometimes this ligament is completely ossified by a bridge of bone joining the upper and back border of the external pterygoid plate to the spine of the sphenoid, forming a foramen which would be mistaken for the foramen ovale. Indeed, it is clear from their description of their method[1] that they have fallen into this error in at least one case. They recommend a fine platinum needle, of 0·7 millimetre diameter only. I do not find a fine needle nearly so satisfactory as a stouter one, though I do not consider it necessary to use such a stout one, with a stylet, as recommended by Schlösser, and adopted by most of his followers. I find that a fine needle bends so easily that it is quite impossible to be sure that the point of the needle is following the changes of direction given to the handle, and I do not find that the stouter needle causes any more vascular injury than does the fine needle. The internal maxillary artery turns into the zygomatic fossa at the level of the bottom of the lobe of the ear which is well below the bottom of the sigmoid notch, and the only branch liable to injury is the middle meningeal, and the needle should not be directed far enough backwards to damage this vessel.

The *foramen rotundum* is best reached by sinking the needle below the malar bone in front of the coronoid process slightly in front of a line prolonging the posterior border of the orbital process of the malar across the zygoma. The needle should be sunk inwards, backwards, and upwards at an angle of about 40 degrees upwards and 30 degrees backwards. The needle will then strike the anterior border of the external pterygoid plate at a depth of about 1¾ inches, and the point of the [illegible] forwards so as to sl[illegible] this plate through t[illegible] spheno-maxillary foss[illegible] angle upwards the p[illegible] nerve at its point of exit from the foramen rotundum at a depth of about two inches from the surface, though in the small skull of a woman of the height of 5 feet 2 inches the foramen rotundum will be reached at a depth of only 1¾ inches. It is most important to remember the depth at which the foramen lies as it is not always possible to make the point of the needle engage in the foramen owing to the backward projection of the antrum in some skulls narrowing the pterygo-maxillary fissure to such a degree that the needle passes in front of the foramen and cannot be made to pass into its anterior lip. If the needle be pushed farther in the same line for three-eighths of an inch the optic nerve will be struck at the optic foramen, and in some skulls it is possible to push the needle straight through the sphenoidal fissure into the brain. When injecting the superior maxillary nerve, therefore, the needle must never be sunk to a greater depth than 2¼ inches from the skin for a large skull, as of a man of 6 feet in height, or more than 1¾ inches for a small skull of a woman of 5 feet in height. If the needle cannot be felt to engage in the foramen rotundum the injection must be made at the required depth, and it is then always perineuritic, the nerve trunk not being actually pierced. Fifteen minims of the strong alcohol slowly injected is perfectly safe from injuring the optic nerve or the third nerve if the precautions as to depth are observed.

Schlösser, Brissaud and Sicard, and all the other users of this method whose writings I have perused use no general anæsthetic, principally for the reason that the patient is able to inform them by a scream of pain when their needle reaches the ner[illegible] ia especially I prefer t[illegible] anæsthesia, as thereby [illegible] ured, and I am not conscious of being hurried, and can therefore perform the injection far better. If the bony anatomy of the parts is thoroughly familiar, as I have already urged to be absolutely necessary, it will be unnecessary to require the information from the patient as to when the nerve is reached, though this sign may be also secured by allowing the patient to come round partially from the anæsthetic after the needle has been inserted and the point is ready to strike the nerve. The patient will then be seen to give a twitch of the face as though in pain, though afterwards no memory of the pain remains.

It is almost needless to remark that the strictest aseptic precautions are necessary. Some advise keeping their needles in absolute alcohol, but I always boil my needles in 1 per cent. bicarbonate of potassium in distilled water immediately before use. The skin is sterilised with ether soap and is then rubbed with a little lysol, which is mopped off with absolute alcohol. The puncture wound is sealed with a small collodion dressing, which may be taken off after the third day.

A certain amount of œdema of the face is constant after alcohol injections, but this is of no consequence and it passes off after two or three days. Hæmatomata sometimes result from puncture of an arterial branch, but I have only encountered this once, when puncture of the infra-orbital foramen when injecting the infra-orbital nerve caused a slight hæmatoma of the lower eyelid and adjacent skin of the cheek.

In conclusion, I am of opinion that this method is a certain relief for trigeminal neuralgia, and though recurrence of the pain is likely after an interval, varying from four or five months to as long as 18 months, it is perfectly simple to repeat the injection whenever necessary. This appears to me far preferable to the more serious operation of extirpation of the Gasserian ganglion, and certainly should at all events be tried first.

In addi[illegible] method is of great service i[illegible] n, and also other forms of [illegible] supra-orbital neuralgia, the facial pain of [illegible] or jaw, and in chronic sci[illegible] the lower limbs and other causes of severe persistent neuralgia below the mid-dorsal region I consider may possibly be also relieved by this method, by injecting the spinal nerves at their point of emergence at the intervertebral foramina. These foramina I have found comparatively easy to reach for the lower dorsal, lumbar and upper sacral roots.

Wimpole street, W.

UNIVERSITY OF BIRMINGHAM: THE FACULTY OF MEDICINE.—The Ingleby lecture will be delivered on Thursday, May 27th at 4 o'clock in the Medical Lecture Theatre by Sir Thomas Barlow, Bart., K.C.V.O., M.D., F.R.C.P. Lond., who will [illegible] his [illegible]ect Raynaud's Disease and Erythrom[illegible]

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[1] Revue Neurologique, Nov. 30, 1907.

A SIMPLE OPERATION FOR THE COMPLETE REMOVAL OF TONSILS, WITH NOTES ON 900 CASES.

BY GEORGE E. WAUGH, M.D., B.S. LOND., F.R.C.S. ENG.,

SENIOR SURGEON TO OUT-PATIENTS AT THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET, W.C.

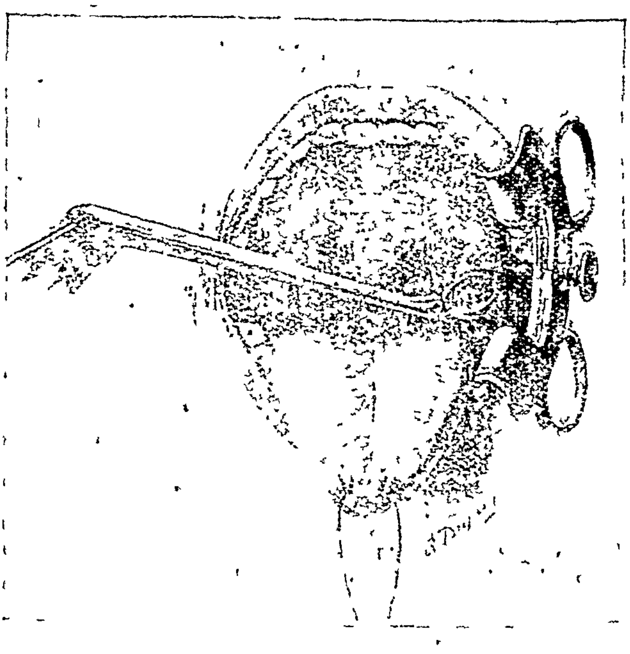
IT has long been recognised that the tonsil resembles in mode of development[1] and structure an ordinary lymphatic gland. That further, as the result of disease, it undergoes changes which are identical with those occurring in lymphatic glands in other parts of the body under similar morbid conditions. Nevertheless, the treatment of these conditions—except of such rare ones as invasion by malignant neoplasms—has not been carried out upon those surgical principles which govern the treatment of diseased lymphatic glands in other regions. The reasons alleged by writers upon the subject are generally either that that form of treatment which violates those principles—i.e., tonsillotomy—is quite satisfactory, or that that form of treatment which implies adherence to those principles—i.e., tonsillectomy—is too difficult.[2] Neither of these reasons appears to me to be valid. The failure of tonsillotomy by other operators to afford relief from the symptoms for which it was performed in 143 out of the 900 cases here recorded and the designing of a simple and safe form of tonsillectomy, to be described later, appear to support this conclusion.

It is probably a common experience of all large out-patient departments—and certainly of my own at Great Ormond-street—to find a large number of patients upon whom tonsillotomy has been performed and to whom no relief either of the local or general condition for which the operation was done has resulted. From the frequency with which the operation has been repeated—sometimes as often as three times, and from the fact that the operation has been performed by many operators at other hospitals in these 143 cases, it seems right to conclude that the cause of failure lies not with the operator but with the type of operation. Even in highly skilled and experienced hands the complete removal of a tonsil by means of the guillotine is a task of such mechanical difficulty as to be, except in a few rare cases, quite impossible.

The cause of failure to afford relief in these cases already alluded to is the persistence of the remains of septic tonsillar tissue of such a size as to be quite inaccessible to the guillotine. This further emphasises the fact that it is not primarily *the size* of the tonsil which matters, but *the septicity*, and this may be of a high degree in a comparatively small tonsil. By virtue of its situation, at the upper end of the alimentary tract, a diseased tonsil can pour septic contents from its cryptic surface continuously into the alimentary canal at the same time as absorption can occur through its lymphatics into the adjacent glands in the neck. It thus has a two-fold power of doing harm. The danger of continually swallowing septic matter from carious teeth has long been recognised, but the similar danger of continually swallowing septic material from decaying tonsils has not been sufficiently emphasised. This attitude of indifference has largely arisen from regarding the removal of tonsils as being only necessary when it is possible to slip them through the ring of a guillotine. Hence the potency of the small imbedded septic tonsil to do harm[3] is easily overlooked, and more especially in children who seldom complain of a "sore-throat," even when the tonsils are inflamed. Provided that the tonsils give rise mechanically to obstruction to swallowing or breathing on account of their size, or the patient suffers from frequent attacks of sore-throat, or has enlarged glands in the neck or intractable middle-ear disease, the cause of the trouble is promptly recognised. But there is a large group of cases which is characterised by none of these troubles, and is made up of children who are simply profoundly debilitated, poorly nourished, exhibiting lassitude both in work and play, and who are frequently described as being victims of a "weak constitution."[4] Of such a type are 126 of the cases here recorded. Sometimes there is direct evidence of disorder of the alimentary tract, such as pain and vomiting after food, obstinate constipation, or frequent attacks of offensive diarrhœa. It is not to be supposed, however, that these groups of symptoms are to be explained solely by the presence of diseased tonsillar tissue. They are merely evidence of chronic toxæmia, and in searching for the primary focus of infection the small imbedded irregular tonsil must not be overlooked. And even when this type of tonsil has been present—as it was in the 126 of the cases recorded and which presented these groups of symptoms—it was not considered justifiable to remove them until a physician had satisfied himself that no other cause for the illness could be detected. (Most of these 126 cases were under the care of my colleague, Dr. R. Hutchison, to whom I am indebted for permission to refer to his notes upon them.) That it was the main cause in a very large number of cases was indicated by the results following complete removal.

The objection to "tonsillectomy" on account of the difficulty of the operation has been overcome by the following operative procedure, which has already stood the test of application to over 900 cases.

FIG. 1.



Showing imbedded tonsil with free surface level with the pillar of the fauces grasped by conchotome.

The instruments required are two Hartmann's ring conchotomes (Hett's modification has added a useful serration to the margin of the lower ring), one pair of curved scissors, and one pair of fine-toothed dissecting forceps. The patient must be prepared by a preliminary visit to the dentist, so that no operation in the oral cavity is performed until all carious teeth have been stopped or removed. The patient is placed in a recumbent position with a sandbag beneath the shoulders, with the head falling slightly backwards, so that the naso-pharynx slopes backwards and downwards, thus enabling the small quantity of blood which is shed to trickle towards the nostrils rather than towards the larynx, whilst the slope is not so great as to cause engorgement of the pharyngeal venous plexus. A loop of silk is passed through the tip of the tongue for the purpose of retraction, and a gag is inserted between the last molar teeth. The tonsil is then seized in one of the pairs of ring

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[1] I am indebted to Mr. G. S. Hett, having read his paper published in THE LANCET of Feb. 13th, 1909, in which he describes the development of the tonsil.

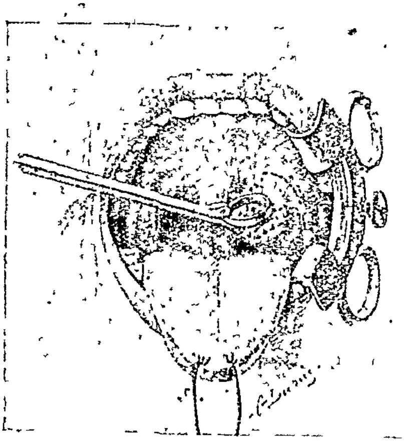
[2] Index of Treatment, art. Tonsillitis.

[3] Keen's Surgery, vol. iii., p. 451.

[4] Surgical Treatment, Cheyne and Burghard, vol. vi, p. 75.

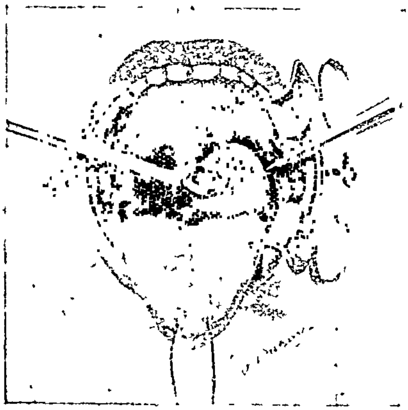
[illegible] middle line, so that the [illegible]neath its normal cover- [illegible] (Fig. 1.) Immediately [illegible] he anterior pillar, just where it blends with the surface of the tonsil, an incision is made with the fine-toothed forceps, parallel to and extending for the whole length of the free margin of the anterior pillar. (Fig. 2.) This incision reveals the capsule of the tonsil which now appears as a glistening smooth bluish-white surface. (Fig. 3.) (The ease and success of the operation depend upon this incision displaying the capsule of the tonsil and not entering its substance. This mistake is easily made by keeping too near to the free surface of the tonsil, and it is the common cause of difficulty and failure for beginners.) The ring forceps is then readjusted so as to get a firm hold upon the tonsil and the anterior pillar is drawn outwards by means of the fine toothed forceps. The tonsil is then practically dislocated from its bed, and the separation of the rest of the layer of fine cellular tissue, intervening between the capsule of the tonsil and the muscular wall of the pharynx, is easily effected either by the fine toothed forceps or by a closed pair of curved blunt-ended scissors which fit in behind the whole of the tonsil and push the pharyngeal wall away from it. (Fig. 3.) Since the tonsillar vessels are thereby torn across and are able to retract within the muscular wall of the pharynx, there is practically no bleeding—in fact, the absence of bleeding forms a striking contrast to the sharp hæmorrhage which ensues after the tonsil has been cut across by a guillotine.

FIG. 2.



Tonsil drawn inwards and incision made along dotted line This line is close to the free margin of the anterior pillar of the fauces, which does not appear owing to the bulging of the imbedded portion of the tonsil during traction.

FIG. 3.



A[illegible] drawn outwards and tonsil [illegible]

The time occupied in the complete removal of both tonsils and adenoids is, on an average, three minutes A brief deep anæsthesia with chloroform is necessary, and the coughing reflex should be abolished. If it is present it adds a distinct danger to the operation, since coughing enormously increases the hæmorrhage, and during the ensuing inspiration blood could easily be sucked into the larynx. Under the conditions detailed above the [illegible] During the operation tra[illegible] fauces must be avoided, [illegible] spasm of the glottis.

For the after-treatment a simple mouth-wash is provided and a mixture containing salicylate of soda and chlorate of potash, administered every few hours. The patients are kept in bed for about 48 hours and are allowed solid food when they feel inclined for it With children this is frequently on the day after the operation.

All the above 900 cases have been seen at the end of a week and at *the end of five weeks from the date of operation.* Their ages range from six weeks to 41 years. There have been no complications, such as hæmorrhage or sepsis As a rule the temperature seldom reaches 100° F. after the operation. Of the 126 cases who had been chiefly under the care of Dr. Hutchison, suffering from general debility, 12 showed no improvement after the operation. In the remainder of the cases rapid and complete recovery was made. Of those suffering only from throat symptoms 774 cases have been operated upon Of these 143 had already had their tonsils "guillotined"—some of them as often as two or three times —at other hospitals with no relief to them. They all made an uninterrupted recovery. A typical case from this group may be quoted.

The patient, aged nine years, had his tonsils guillotined at a London throat hospital in November, 1906, on account of sore throat. He continued to suffer from this affection until March, 1907, when he contracted scarlet fever. Since then, the attacks of sore throat had become more frequent. On examination, large imbedded masses of tonsillar material were seen to be present Since the removal of these by dissection in July, 1907, he has remained quite well.[5]

Welbeck-street, W

A RARE CARDIAC CONDITION: MITRAL STENOSIS WITH BALL-THROMBUS IN LEFT AURICLE.

BY ALEX MILLS KENNEDY, M.B., CH.B. GLASG.,
ASSISTANT PATHOLOGIST TO THE GLASGOW ROYAL INFIRMARY.

IN cas[illegible] to find ante-mortem [illegible]icle, but such a curiou[illegible] called ball-thrombu[illegible]nt its occurrence being placed on record.

The case was that of a well-developed and well-nourished woman, 47 years of age, who was admitted to the Glasgow Royal Infirma[illegible] action of the [illegible] systolic and [illegible] the apex. The second pulmonic sound was reduplicated. Four years ago the patient had been treated in this hospital for her cardiac condition. At that time a presystolic murmur at the apex was made out. It is 12 years ago since the from the parasite, though I cannot recommend them any sovereign remedy, I can truly bid them not to be disheartened. Their condition is not such as they have been led to believe, and each day that they protect themselves from invasion brings them nearer the time in which they will almost forget that they were ever affected by the bilharzia hæmatobia.

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[5] This article has been unavoidably withheld from publication since December, 1903.—ED. L.

Pietermaritzburg.

RUPTURE OF THE PREGNANT UTERUS FROM CONTRECOUP IN A WOMAN NOT IN LABOUR; OPERATION; RECOVERY.

BY JOHN PHILLIPS, M.A., M.D. CANTAB., F.R.C.P. LOND.,

PROFESSOR OF OBSTETRIC MEDICINE AND GYNÆCOLOGY IN KING'S COLLEGE; OBSTETRIC PHYSICIAN AND GYNÆCOLOGIST, KING'S COLLEGE HOSPITAL; EXAMINER IN MIDWIFERY, LONDON UNIVERSITY AND THE CONJOINT BOARD.

THE following case appeared to me of sufficient interest both from the rarity of the accident and the concomitant symptoms to warrant publication.

On March 8th, 1908, the patient, a healthy VI.-para, when seven months advanced in pregnancy, fell from a first-floor window, from 12 to 14 feet high, on to her buttocks; she remembered striking on an oaken edging to the garden path. She was seen by Dr. P. N. Randall of Bromley (to whom I am much indebted for the following notes) about an hour and a half after the accident. Her pulse was fairly good; she was conscious, but in great pain in the right side of her abdomen. Fœtal movements had been felt immediately after the accident but not since. There was no definite paralysis of the legs but she was unable to move them in any way and it was necessary to draw off the urine by catheter twice daily for the 16 days subsequent to the accident. Three days after the accident (the 11th) she developed acute bronchitis, and eight days after (on the 16th) a little blood escaped from the vagina for the first time and gradually became more free.

The patient was seen in consultation on March 18th, ten days after the accident. She was a spare brunette and looked ill; her respirations seemed quicker than normal, and her pulse was feeble (104). There were loose râles heard over both lungs. On inspection of the abdomen it presented none of the features of a seven months fœtation, and coils of intestines were very distinctly seen through the thin abdominal walls. There was no distension and no tenderness on pressure. No fœtal heart sounds could be heard, but a distinct uterine souffle could be made out to the left of the median line in the lower hypogastrium. The areolæ were stained but the breasts were not active. On palpation of the abdomen there was an absence of the usual uterine tumour halfway between the navel and the epigastric notch. Extending from the lower edge of the liver to the right inguinal region there was an irregular, somewhat ill-defined swelling made out. Some prominences were noticeable upon its surface. A fœtus could be palpated with its face looking to the left. In the lower hypogastrium and in the median line could be felt a soft, elastic, globular swelling, reaching halfway between the symphysis and the navel; this gave the sensation to the touch of a uterus recently emptied of its afterbirth, or the uterus of a far-advanced extra-uterine pregnancy. Per vaginam, a slight mucous discharge with a little bloodstain mixed with it was going on; the cervix was soft and admitted the finger to the internal os uteri. The swelling felt in the lower hypogastrium was clearly the uterus; the mass in the right groin could not be clearly defined; the left loin and fornix appeared to be quite free and healthy. Extending from the uterus, across to the swelling in the right loin, was an indefinite mass which appeared to have a slight amount of restraining action on the mobility of the uterus.

It was considered that the case might be: (1) one of ruptured uterus with the fœtus lying among the intestines on the right side; (2) the possibility of a primary abdominal extra-uterine fœtation; or (3) pregnancy in a bi-cornuate uterus. It was considered that the case would possibly be elucidated by the passage of the sound; this was found to pass easily into the uterus and considerably beyond the fundus; its point could be felt immediately behind the thin abdominal wall about three inches above the umbilicus; it appeared to pass in front of the fundus uteri.

The patient was anæsthetised and the finger inserted into the cervix. After a little upward pressure, about two inches above the internal os uteri, a ragged, longitudinal opening was felt and a lobe of separated placenta impacted in it; no liquor amnii or fœtal parts could be made out *in utero*, but in the right inguinal region what appeared to be a leg could be palpated by the finger in the uterine cavity, showing clearly that it was outside the uterine wall. Diagnosis was therefore made of ruptured uterus, probably of the anterior wall, the dead fœtus lying in the right side of the abdomen. The abdomen was opened in the median line. On reaching the subperitoneal fat it was found to be yellow and parchment-like, and the peritoneum itself very soft and breaking down on touching. On opening the cavity a considerable amount of dark blood-stained fluid escaped and the uterus was seen immediately beneath the incision. An irregular longitudinal opening, with retracted edges, was noted at the lower end of the incision wound; on the right a female fœtus with the skin macerated was seen lying among the intestines; the great omentum was deeply stained a brown colour. On passing the hand into the peritoneal cavity the fœtus was felt lying on its left side, with the head in the epigastrium, the face towards the anterior abdominal wall, its right shoulder under the liver, and the buttocks and legs in the right iliac fossa, the head being somewhat moulded by the cleft in the liver. The placenta was lying across the front of the uterus, a small portion of it occupying the laceration already spoken of in the anterior wall of the uterus; this was obviously what was felt interfering with the mobility of the uterus. It was quickly removed, the uterine cavity carefully explored, and some small pieces of adherent placenta removed. The fœtus was lifted out through the abdominal wound, some large blood-clots were taken out with sponges, and the uterus, in a fairly good state of contraction and retraction, was brought to the surface. The sloughing edges of the uterine wound were pared carefully and brought together by two layers of superimposed silk stitches. The parietal peritoneum was then stitched to the sides of the uterine scar (abdominal suspension) and gauze drainage was applied. The abdominal wound was then closed. During the operation nearly three pints of saline fluid were injected into the cellular tissues of both breasts and the peritoneal cavity. The condition of the patient at the end of the operation was fairly satisfactory and she was got back to bed, with a pulse of 110 per minute, of a feeble but regular character. The fœtus showed no abnormalities of development; it weighed 3 pounds 13 ounces and the skin was peeling.

The post-operative history was uneventful. The bronchitis slowly cleared up, the patient's temperature remained below 100° F., and her pulse gradually descended to normal. I saw her again on Jan. 13th last (about ten months after the operation). I then found the scar quite healthy, the uterus a little bulky but freely mobile, anteflexed and anteverted, and the patient's only complaint was that whereas before the accident she had had painless menstruation she now suffered from colicky pains in the lower hypogastrium during the whole time of the flow.

A few points in the history of this case seem worthy of attention. It may be noted that a woman with a ruptured uterus for 10 days, the fœtus, blood, liquor amnii, and the larger portion of the placenta lying in the peritoneal cavity, showed no indications of acute peritonitis or any general symptoms of importance. It is possible that the impaction of the soft placenta in the longitudinal rent in the anterior wall may have in some way prevented the entry of germs into the peritoneal cavity and so saved the patient an acute illness as well as have arrested hæmorrhage. The position of the rent was an unusual one and must have been caused by the reflected impact of the child's body against the anterior uterine wall. I have been unable among more recent literature on the subject to find any case of a similar nature. The ventro-suspension was not in itself necessary, but it was thought desirable to cut off the laceration from the general peritoneal cavity. The dysmenorrhœa is probably due to interference with the bipolar action of the uterus during menstruation.

Brook-street, W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Exhibition of Cases.—Acute Infective Gangrene of the Extremities.

A MEETING of this section was held on April 30th, Dr. A. E. GARROD being in the chair.

Dr. G. A. SUTHERLAND showed three Mongolian Imbeciles. The first was a boy, aged five years and nine months, with the following characteristics: small head, small palpebral fissure with the axis sloping inwards and downwards, depressed bridge of the nose and epicanthus, the openings of the nares directed upwards, the mouth wide open, the tongue large with some transverse fissuring, horizontal nystagmus and head-shaking, and little finger and thumb shortened, with slight curving of the former. Nasal obstruction was pronounced until operation for adenoids was done. *The boy was very imitative, active, and required* constant supervision. His habits were clean. Mental development was progressing but was still very backward. *The second was a female patient, aged six years.* She was active, imitative, and fond of music, required constant supervision, and could not form sentences yet. Her mental development was progressing slowly. The third was a boy, aged four years, who could say simple words and learned to walk at the age of two and a half years. The left hand shows shortening of the thumb and complete webbing of the third, fourth, and fifth digits. He was very fond of music and imitative and active in his habits. His mental development progressed very slowly. Dr. Sutherland said that he did not think any light would be thrown on the condition of Mongolian imbecility until they knew the cause of the disease. Treatment by thyroid was not successful and if a *case improved under that treatment in all probability it was* not a case of Mongolism. Prognosis of life in these cases was bad, most of them dying under two years of age.

Dr. H. MORLEY FLETCHER showed three cases of Mongolism, two of the cases being five years of age, the third 6½ years of age. He pointed out that the skin of the hand in such cases showed a certain peculiar roughness or harshness.

Dr. F. J. POYNTON showed four Mongolian Imbeciles. The first was a girl, aged four years. She was brought to Great Ormond-street Hospital when aged six months, and since then—namely, for three and a half years—had been treated with small repeated doses of thyroid. She talked when aged two years and ten months. *She was passionate,* fairly clean, and could say a few words, and was fond of musical sounds. The second was a boy, aged nine years. He had always been noticed to be backward. He took the bottle until three years of age, and for many months, instead of [illegible] it in tailor fashion, [illegible] years of age. He [illegible] since September, 1908, with small doses of thyroid. The degree of intelligence was small; he could not talk consecutively, nor read, nor learn, but he could take a simple message. He was usually clean and could amuse himself. Since thyroid treatment was started friends and relations considered him "brighter," but it was difficult to discover any real improvement. The third was a female, aged three years, who had been treated for over a year with thyroid and during that time had made progress She commenced to walk when aged two and a quarter years and could now make a certain amount of progress on her feet. The general aspect was of the usual type. The child was fond of musical sounds and understood, though slowly, a good deal that was said to her. She was unable to talk but was now beginning to make efforts. The fourth was a female, aged four years, who had been treated since the age of ten months with small continuous doses of thyroid. This characteristic Mongolian imbecile was now beginning to talk and was fairly clean. She did not appear to have made any real advance over other cases which had not had any thyroid treatment. Dr. Poynton said that the object of showing the group of cases was to raise the point as to the value, if any, of thyroid treatment in the condition of Mongolian deficiency. His four cases were in themselves of the usual type, the oldest being of a comparatively mild degree. They were not related to one another. 12 cases had been treated for prolonged periods with thyroid, but the results had not been encouraging. Poor circulation and severe chilblains were somewhat improved by this remedy, and it would appear that these cases were rather brighter and more responsive after commencing the treatment. There did not seem to be any specific action on the underlying constitutional deficiency. In his experience considerable doses of thyroid soon induced in Mongolian imbeciles signs of excitement and disturbance of health as a direct result, and for that reason small doses *only had been given for prolonged periods, such, for example,* as one grain of the powdered gland twice a day for a child aged three years. In his series of cases some had been first born, some last born, and others in the middle of a family. Some mothers had been young, some old, and some neither young nor old.

Dr. F. S. LANGMEAD showed Two Mongolian Imbeciles. The first was a boy, aged one year and seven months, with congenital morbus cordis, as evidenced by a loud systolic bruit, and an accessory auricle on the right side. The second *was a girl, aged three years. At two years of age she could* just sit and crawl and now was beginning to walk with help. There was a congenital lesion of the heart, as shown by an *increase of the cardiac dulness to the right, and an evident,* but slight, murmur in the pulmonary area.

Dr. LEONARD GUTHRIE showed Two Mongolian Imbeciles. One was a fat, sturdy boy, aged five years, of typical Mongolian aspect. He had extraordinary powers of imitation, [illegible] manners. The other was a boy, aged eight years, with signs of cretinism that had improved under thyroid treatment. Dr. Guthrie considered that thyroid treatment was absolutely *useless in the ordinary cases of Mongolism unless the patient* also exhibited signs of cretinism.—Dr. G. E. SHUTTLEWORTH said that thyroid treatment did not improve patients suffering from Mongolism. In the better-class patients treated in favourable circumstances the results of careful training were not so discouraging as was generally thought. It was, however, by imitation that these patients succeeded in accomplishing any work, and the period arrived when imitation could not carry them further in the active work of the world, through lack of originality and initiation. With regard to the mortality in this disease, the patients were exceedingly prone to die from tubercle and comparatively few lived to the age of puberty.

Mr. J. JACKSON CLARKE showed six cases of Successful Treatment of the Congenital Dislocation of the Hip by the Manipulative Method, and Mr. V. WARREN LOW also showed a similar successful case.

Mr. JAMES SHERREN showed a case six years after the performance of Omentopexy for Ascites due to Cirrhosis of the Liver. The patient was a woman, aged 34 years, who was admitted into the London Hospital in April, 1903. Her abdomen was then distended with fluid, the liver could just be felt below the costal margin, and the spleen was markedly enlarged, reaching nearly to the umbilicus. There had not been any hæmatemesis or melæna, and she was not jaundiced. At the operation on April 28th, 1903, the abdomen was found to be filled with clear yellow fluid. The liver was firm and typical of the type of cirrhosis known as "alcoholic." The wound healed by first intention, and she left hospital free from ascites and feeling well on May 27th, 1903 She had been seen on several occasions since and had remained free from symptoms. Two years after operation she bore a healthy child. The splenic enlargement had gradually diminished.—Mr. C. GORDON WATSON said that he had seen many patients operated on for ascites due to cirrhosis of the liver, but in the majority of cases the result was a complete failure.—Dr. H. D. ROLLESTON pointed out that the operation should be performed when the patient was in good condition as regards nutrition, and it was only occasionally that they came across cases suitable for this treatment.

Mr. E ARCHIBALD SMITH showed a case of Multiple Congenital Deformities in a boy two months old.

Dr. H. G. TURNEY showed a case of Trophœdema following Trauma. The patient was a male, aged 18 years. Six months ago he ran a nail into the inner border of his right foot and had not been able to work since. The slight injury soon healed, but ever since the accident the foot had been increased in size. The present condition was one of œdema of the right foot, which stopped abruptly at the ankle. The colour was normal, the skin was dry and coarse, and the nails were thickened. Movements were free and not painful. There was some general blunting of all forms of sensation (but particularly that of pain), not only over the foot but nearly up to the knee. The x ray examination was negative.

Dr. T. D. SAVILL and Dr. PHILIP GREEN showed a case of Sclerodermia associated with Angioneurotic Œdema. The patient was a female, aged 56 years. The skin of the hands, nose, forearms, and to some extent of the toes, was thickened and livid. There was no pitting on pressure. She could not use her hands to button her garments because of the mechanical difficulty of flexing and extending the joints. In the forearms the parts were becoming hide-bound owing to the thickening of the skin and subcutaneous tissue. Over the left clavicle was an area about 4 inches by 2 inches of smooth, shiny, thinned skin, such as that left by morphœa. The patient enjoyed fairly good health but had within the last few weeks developed a stiffness of the knee-joints having the characters of so-called rheumatism. She had had bilious attacks, starting in the early thirties, about once a week. Alternating with these she had attacks of swelling on various parts of the surface of the body. Both the bilious attacks and the swellings ceased about two years ago, at the age of 54 years, when the hands first began to be persistently affected. The cutaneous swellings had all the characters of angioneurotic œdema, sometimes preventing her swallowing and giving her an alarming feeling of suffocation. Her mother died at the age of 54 years from a sudden swelling of the face spreading to the throat and causing death within 24 hours. A daughter, aged 22 years, had had swellings in many different parts of the skin since the age of 12 years.

Mr. GORDON WATSON showed a case of Double Infantile Coxa Vara treated by subtrochanteric osteotomy. The patient was a girl, then aged 15 years, who was admitted to the Metropolitan Hospital in December, 1907, with a history of deformity of the hips and difficulty in walking since early childhood. She had then a waddling gait, lordosis, and swung the body from side to side like a case of congenital dislocation. The great trochanters were greatly elevated. Abduction was practically abolished but other movements at the hips were free, though limited. In dorsal decubitus the internal malleoli could only be separated 11 inches. At the present time, 16 months after operation, the legs could be abducted so that there was a distance of 36 inches between the malleoli and she walked well without waddling.

Mr. H. B. ROBINSON and Mr. W. H. BOWEN showed a case of Hereditary Transmission of Claw Hand and Foot in mother and child. The patient was a boy, aged one year, showing inherited claw-foot. His mother had a similar deformity of her feet and in addition had deformed hands. The child's grandmother and great-grandmother had similar deformities of the feet. A skiagram of the left foot showed the absence of the second metatarsal bone save for its proximal end. The cleft in the foot corresponded to the bony deficiency. The phalanges of the first metatarsal bone were present; those of the third and fourth bones were absent; and those of the fifth metatarsal bone were present, but the distal one of the two was turned outwards at right angles. The condition of the right foot was somewhat similar. On the right side the great toe tended to point in an outward direction. In some of the cases of the deformity this outward deviation of the great toe was very pronounced, and tended to meet the inwardly deflected little toe and produce the characteristic claw-foot.

Dr. A. M. GOSSAGE showed a case of Coarctation of the Aorta. The patient was a male, aged 16 years, who had always been rather short of breath, but had enjoyed fair health up to last October when he was attacked with right facial paralysis from which he had since partially recovered. On examination there was some serious dyspnœa and marked pulsation of the carotids. The heart was hypertrophied; the radial pulse was large with a sudden rise. There was pulsation in the second right interspace near the sternum where there was dulness on percussion. The superficial cardiac dulness reached the fourth rib and the right edge of the sternum. Systolic and diastolic murmurs could be heard over the aorta. Pulsation could not be felt in the abdominal aorta, iliacs, or femorals. There was a small artery passing down on the right side of the epigastrium from the lower ribs to the umbilicus, and a small artery could also be felt in each axilla, coursing down the sides of the thorax. Numerous small arteries passed at the back from the spine in the direction of the intercostal spaces under the skin. The aortic lesion was evidently congenital and was probably in the usual position just above the junction of the ductus arteriosus with the aorta.

Mr. W. FEDDE FEDDEN read a paper on six cases of Acute Infective Gangrene of the Extremities. He considered that infective gangrene might be produced by a great variety of definite organisms—namely, the bacillus aerogenes capsulatus, bacillus coli, bacillus pyocyaneus, *vide* Dudgeon and Sargent, streptococcus pyogenes, and staphylococcus aureus. It was a noteworthy fact that the bacillus of malignant œdema did not find a place in any of the six cases. The prognosis of cases due to bacillus aerogenes capsulatus was undoubtedly very much more favourable than in those due to streptococcal infections, whilst those due to staphylococci appeared to hold an intermediate position. The period between infection and the appearance of actual gangrene in the first group was almost constant—namely, from 30 to 36 hours—whereas in the group caused by streptococcus that period might be as short as an hour. The incubation period of the staphylococcal group was very variable, but might be prolonged to several days. The importance of early amputation was self-evident, and was so urgent that the diagnosis must be made on clinical data, as the time for bacteriological confirmation could not be afforded.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Exhibition of Cases.—Meningitis associated with the Leptothrix Bacillus.—School Life and Children's Vision.

A MEETING of this section was held on April 23rd, Mr. R. CLEMENT LUCAS being in the chair.

Mr. HUGH LETT showed: 1. Cystic Hygromata in a girl, aged 15 months, under the right arm, on the right elbow, and over the right scapula. The mass in the axilla was soft with irregular nodular areas. The skin over it was adherent and dimpled. There were no dilated veins or pulsation. 2. Multiple Masses under the Skin of the Thigh. The patient was a girl, aged six months. The swellings had been noticed since birth. On seeing the case three weeks ago the appearances had suggested lipomata, but one of the masses had now become softened and discoloured and there was phlyctenular ulceration of the cornea. The condition was therefore one of multiple tuberculous abscesses. 3. A Tumour of the Femur in a boy, aged 15 years. He had noticed a lump in the right thigh four years ago which had been growing slowly since. It causes the patient a little pain when the weather is damp. The urine contains a trace of albumin. 4. A case of Multiple Osteomata in a boy, aged four and a half years. He appeared to be normal until the age of 18 months, when his mother noticed lumps on his legs. Osteomata can be seen or felt at the ends of both tibiæ and humeri, at the adductor tubercles of the femora, on the vertebral borders and spines of the scapulæ, at the outer end of the right clavicle, on the ribs at the junctions of the cartilages and bone, and symmetrical nodes on the skull. The boy was well except that he got tired very quickly. The tumours were roughly symmetrical.—Mr. LUCAS said he had but little doubt that the three small swellings in Case 2 were tuberculous skin abscesses. The fact that one had become discoloured since Mr. Lett saw it three weeks ago indicated the probable contents of the others—namely, sweet white pus. With regard to the tumour on the thigh, he thought that it was an ossifying enchondroma, usually known as exostosis. The photograph showed that the bony part was growing, and as it was single he would be inclined to remove it.

Mr. R. WARREN showed a specimen from a case of Congenital Stenosis of the Rectum, Colon, and part of the Ileum. The baby was three days old and had passed no motion since birth. The finger could be passed one to two

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[illegible] anosis was increased. [illegible] the cubic millimetre of blood. The child died at six and a half weeks. The foramen ovale was not completely closed, admitting the passage of a pencil five millimetres in diameter. The ductus measured 15 millimetres in length and its channel was about five millimetres in diameter, being a little wider at its aortic end; the aorta was very slightly constricted where joined by the ductus. The lungs showed atelectatic patches in the upper lobes. The liver was slightly enlarged.—Dr. E. CAUTLEY asked Dr. WEBER whether he ascribed the cyanosis to the patent ductus or to the condition of the lungs. He thought himself that it was not due to patent ductus, because if there were mixing of the bloods there would be an excessive number of red cells which was not the case.—Dr. WEBER thought that the atelectatic patches had a share in producing the clinical condition.

Dr. A. J. JEX-BLAKE showed a case of Extreme Deformity of the [illegible] Lung. The patient had alw [illegible] a history of consumption on [illegible] At the age [illegible] onia and [illegible] abscess [illegible] ate with [illegible] Three [illegible] nd dull [illegible] ubbing. [illegible] from a sinus close to the sternum. Two further operations had been done. He had had a chronic discharge on and off [illegible] bronchitis on admission, but at the present time was not bringing up any sputum. There was no family history of syphilis. [illegible] died in in [illegible]

Dr. G. C [illegible] of the C [illegible] Diarrhœa and vomiting began in the first week and ceased on March 28th. The bowels were then not opened until admitted to hospital on April 2nd. The abdomen was then [illegible] after treatment with enemas and aperients, normal motions were passed and the distension had disappeared. It then [illegible] bismuth, was obviously dilated, forming a U-shaped tube with the base of the U at the splenic flexure, the ascending and transverse colon forming one leg of the U and the [illegible] ted the surgeons to pass [illegible] ation was advisable.—Dr. [illegible] gnosis was to rest on the [illegible] cure basis, especially when [illegible] of starch and bismuth had been injected into the colon under a constant pressure, and that unless the plate was pressed down on the colon there would be a considerable spreading of shadow. The darkness on the right side of the U was also contributed to by the did not understand why the case was spoken of as congenital, because even if [illegible] Dr. Carpenter the child [illegible] its attack of abdominal [illegible] bismuth and starch were injected into a child's colon it would easily become dilated.—Mr. J. P. LOCKHART MUMMERY said the diagnosis could be cleared up by the use of the [illegible] that he still thought [illegible] nosis on rectal and [illegible] x ray picture. There was no doubt about the thickening and what else could it be due to? He would be glad to afford an opportunity for examination by the sigmoidoscope.

Dr. CARPENTER showed a specimen from a case of Steeple Skull exhibited to the section in December last. The child was at that time five weeks old and died some little time after its exhibition. The specimen was the skull bisected in the median line.—Mr. [illegible] the condition, and Dr. [illegible] should be referred to [illegible] PENTER replied that he would not enter into a discussion of the skull before a full description had been written.

Mr. A. R. THOMPSON showed a case of Solution of Continuity of the Right Clavicle since birth. The mother had fallen down some two weeks before the birth of the child. No deformity was noticed at birth. The boy showed a right clavicle which had apparently been fractured, the two portions being connected by a false joint and forming an inverted V. Mr. Thompson thought *the case was one of fracture, although such cases* suggested the possibility of cleido-cranial dysostosis.—Mr. A. H. TUBBY said this condition first came under his notice two or three months ago in a child aged ten months. The labour had been a difficult one, the arms being behind the shoulders. On bringing the arms down a distinct crack was heard, and there was found to be a deformity of the clavicle similar to that in Mr. Thompson's case. He operated and found an ununited fracture with a false joint and wired the fragments together. He had seen a similar case in which, despite wiring, no true union took place, and feared that in Mr. Thompson's case there would be no true union even if the false joint were excised.—Dr. SPRIGGS agreed that there was a fracture of the clavicle and not cleido-cranial dysostosis. In most ca [illegible] the clavicle of which he had [illegible] evidence of deficiency of the [illegible] for instance, published by the late Mr. Walsham and in the photographs of Dr. Carpenter's cases there was evidence either of an unclosed fontanelle, a globular cranium, a high-arched palate, irregular teeth, or some deformity of the lower part of the sternum. The present case showed none of these. Again, in cleido-cranial dysostosis, although there was usually some irregular deformity of the clavicle on both sides, the fragments might be joined together by a loose joint, in which case the two parts fixed themselves in the same position as in this case. The case was an interesting one historically, because a number of cases of cleido-cranial dysostosis had been recorded as fractures even when the deformity was bilateral Some anatomists, such as Paterson of Liverpool, thought that the clavicle might be developed in two parts.—Mr. LUCAS expressed his agreement with those who had spoken. He thought that operation should be undertaken.

Dr. SPRIGGS showed a case of Multiple Exostoses. The boy went to St. George's Hospital in 1902, aged five years, with a painful tumour in the upper end of the left tibia. At that time he showed several other small exostoses. Five years later, at the age of ten years, he went to the Victoria Hospital and then showed exostoses of the vertebral borders of the scapulæ, on the spine of the right scapula, at the insertion of the pectoralis major in the right humerus, at the lower end of both radii and ulnæ, on a left metatarsal, on the femora and tibiæ, and at the inner and outer ends of each clavicle. At that time he had a good deal of pain and could not dress without assistance. Muscular power was fair. At present (two years later) the bony tumours were definitely less marked. The case was interesting as showing a few tumours at the age of five, more at the age of ten, and a diminution in their relative size since.

Dr. W. A. Milligan read a paper on a case of Meningitis associated with the Leptothrix Bacillus. A child, aged four and a half months, was admitted to hospital with a history of a fall on the head three days previously. There were general rigidity, conjugate deviation of the eyes to right or left, with lateral nystagmus. Craniotabes was present as well as a bulging anterior fontanelle. The temperature was 101° F. and the pulse was 104. A milky fluid was withdrawn by lumbar puncture which contained an excess of polymorphonuclear leucocytes and a leptothrix bacillus, of which a photograph was shown. The organism was Gram-negative and no growth was obtained either on agar-agar or blood serum. The illness ran an acute course, the child having a varying temperature and dying on the fifth day after admission. A subdural meningitis was found post mortem, extending over both hemispheres, especially over the vertex in front. There was an extravasation of blood on the side of the skull on which the child had fallen. The meninges were congested. Examination of the pus revealed the presence of the diplococcus pneumoniæ. On opening the right ear, a small bead of pus welled up. A case of pyæmia and meningitis associated with a pathogenic leptothrix bacillus had been described by Ritchie and McDonald, who also spoke of terminal pneumococcal infection. McDonald had recorded five cases in which he found organisms similar to those described above in an epidemic of cerebro-spinal meningitis and had concluded that the leptothrix was not a contamination. Dr. Milligan thought that the presence of leptothrix was more easily explained as a secondary infection, as this bacillus does occur about the mouth and throat.—Dr. Cautley said that the important point was whether the leptothrix was a cause of meningitis or a secondary infection. He had seen many cases of meningitis of that type but without the leptothrix bacillus. The clinical course seemed to point to a pneumococcal infection.

Mr. N. Bishop Harman read a paper on the Effects of School Life upon the Vision of the Child. After reviewing previous statistics, he communicated the results of the examination of 1100 children, seen at the Belgrave Hospital and the Middlesex Hospital. In all cases the eyes were under the influence of atropine, the ointment of 1 per cent. having been used four times a day for a week. Of every 100 children with defective vision, over 71 had hypermetropia and less than 29 were myopic. These 100 children represented about 10 per cent. of the school children, and so the incidence of myopia amongst school children in London might be considered not to exceed 3 per cent. About 78 per cent. of the cases were girls. This Mr. Harman attributed to the girls having less outdoor exercise and not being in such a healthy condition, as well as to the fine needlework done in school by the girls. During the school age the incidence of hypermetropia increased, as might be expected from what was known of the growth of the crystalline lens. At the same time the curve of myopia rose upwards to the highest positions on the chart, and such a phenomenon as this led to the conclusion that the diminution of the hypermetropic astigmatism had been due to the transference of these cases to the myopic group. On the whole the condition of the eyes of London children was very fair, especially if they compared them with similar returns collected in Germany. The greater proportion of the cases of bad vision were due to natural conditions of the eye—that is, hypermetropia and hypermetropic astigmatism. New-born infants were always hypermetropic. The incidence of "manufactured" bad vision—myopia and its associated astigmatisms—formed between a quarter and a third of the whole of the cases. The evidence of the deterioration of astigmatic eyes indicated the desirability of a special oversight of these cases. Mr. Harman did not think that a healthy school life was harmful to the sight of the child population. In conclusion, Mr. Harman criticised adversely the paper on the Inheritance of Vision by Miss Amy Barrington and Professor Karl Pearson. Several points in his experience led him to different conclusions. Miss Barrington and Professor Pearson would lead us to suppose that the increase of myopia was due to fate and hopeless, but in practice it was found that the amelioration of school conditions and the relief of strain in ill-shaped eyes did stay the increase.—Mr. Sydney Stephenson congratulated Mr. Harman upon the clearness of his exposition. He agreed that it was futile to examine children's refractions unless the accommodation had been paralysed by atropine. Some years ago he examined 6000 eyes, under the Poor-law, in children ranging from 18 months to 18 years of age. In these he found myopia present in 6·68 per cent. That was not very different from Mr. Harman's figures when the different range of ages was considered. He agreed that among the poor children of this country myopia was not of serious frequency. In his own figures the females were almost twice as much subject to myopia as were the males. He agreed in ascribing this to their employment in indoor work and lack of healthy exercise.—Mr. E. Clarke agreed with Mr. Harman and Mr. Stephenson on the great importance of insisting on the use of a cycloplegic. The statistics concerning the refraction of young people which were published without such were useless.

LIVERPOOL MEDICAL INSTITUTION.

Treatment of Tetanus.—Intra-spinal Tumour.—Meningococcic Meningitis in Children.

The last meeting of the session of this society was held on April 29th, Mr. T. H. Bickerton, the President, being in the chair.

Dr. J. Lloyd Roberts reported a case of Tetanus which had recovered under treatment with injections of carbolic acid and of antitetanic serum. The disease followed an injury to the hand from a circular saw. Symptoms appeared ten days after the accident, and treatment was commenced on the sixth day of the disease. On the fourth and fifth days the symptoms had rapidly become more severe, and on the sixth day there was marked trismus, &c. The patient received 10 cubic centimetres of serum every 12 hours, and 15 minims of a 4 per cent. solution of carbolic acid every three hours for one day, and subsequently every two hours. On the second day of treatment the disease appeared to be arrested, and the patient was well 20 days later. 26 injections of serum and 236 injections of carbolic acid were given. The favourable result was attributed to the carbolic acid rather than to the serum.

Dr. John Owen and Mr. D. Douglas-Crawford communicated a note on a case of Intra-spinal Tumour which they had had under their care. It was localised at the eighth dorsal segment and was successfully removed, the patient being shown at the meeting. They hoped to publish a full account of the case later.—Dr. W. B. Warrington discussed the rarity of these cases and urged the importance of physicians having sufficient faith in their diagnosis to urge an operation.

Dr. N. P. Marsh and Dr. O. T. Williams communicated a paper on Meningococcic Meningitis in Children. They referred to the importance of lumbar puncture in the diagnosis of tuberculous meningitis from other types of the disease. In the last 14 cases of tuberculous meningitis they had recovered the tubercle bacillus from the cerebro-spinal fluid. Four cases of tuberculous meningitis with secondary meningococcic infection were described in detail. The use of Flexner's serum had reduced the mortality from between 70 and 80 per cent. to 29·6 per cent. In children under two years of age the mortality was 42·4 per cent. in 59 cases, and in these the higher mortality was amongst those not treated until the seventh day of the disease. The serum was described and its effect both on the organisms and the cytology of the fluid; being bactericidal and only slightly antitoxic the serum must be injected into the spinal canal. 14 cases of cerebro-spinal meningitis were considered. They varied in age from three months to four years, and seven recovered. Three cases treated in the first few days of illness all recovered. The amount of serum used in each case varied from 10 cubic centimetres up to 130 cubic centimetres, and the number of injections from one to five. In infants they advised small doses of from 10 to 15 cubic centimetres. Dr. Flexner confirmed this view. In older children they followed Dunn of Boston and gave 30 cubic centimetres on four successive days, the results upon symptoms and the fluid guiding their future procedure. They considered that this serum in early cases promised extremely good results and even in later cases it favoured the prognosis.—Dr. Owen referred to one case he had treated with the serum with satisfactory results.—Dr. A. G. GULLAN referred to two cases: in one the fluid was not typical nor was the diplococcus found. The patient recovered under treatment with Flexner's serum. The second case, a girl aged 18 years, had been ill a fortnight; after the first injection the patient passed into a state of coma and in spite of further lumbar punctures and injections died.—Dr. JOHN HAY referred to the occasional difficulty of differentiating in certain cases between acidosis and meningitis, and related a case illustrating the point.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.

A MEETING of this society was held on April 23rd, Dr. W. H. CHEETHAM being in the chair.

Mr. H. LITTLEWOOD showed the following cases: 1. A case of Malignant Pustule, with Recovery after Injection of Sclavo's Serum (without excision). The patient, a man, aged 41 years, noticed on April 2nd a "small pimple" on the right eyebrow. Two days later the forehead and eyelids were swollen. On admission on April 5th a central black slough of the size of a sixpenny-piece was present with two or three vesicles around it. There was considerable œdema. No general symptoms were evident. Anthrax bacilli were demonstrated. 40 cubic centimetres of Sclavo's serum were injected at once and 30 cubic centimetres on the following day. The temperature was normal after four days. All the œdema disappeared in a week, and a good recovery was made. 2. A Calculus removed from "Horseshoe" Kidney. Two other shadows on the skiagram proved to be calcified tuberculous glands in the mesentery. The skiagram showed a small shadow at the upper pole of the right kidney and one larger one in the region of the lower poles of both kidneys. On Feb. 22nd nephrotomy was performed on the right side. The kidney was found to be of the "horseshoe" variety. A stone in the upper part of the right kidney was found. Other shadows were not accounted for. On April 1st, after a further skiagram had been taken, the abdomen was opened in the mid-line. Two masses of calcified glands found in the mesentery were removed and recovery was uneventful.

Dr. T. CHURTON showed the following cases: 1. A case of Acute Myelitis of the Conus Medullaris, probably Syphilitic. The patient, a man, aged 28 years, experienced on March 10th a sudden weakness in the left leg but it lasted only a few hours. 14th: The patient passed urine freely at 10 A.M. but at 5 P.M. he was unable to do so. 15th: At 11 A.M. some urine dribbled away. Catheterism became necessary then and afterwards. 24th: On awaking, sensation was found to be lost below the left knee and motion to be lost from the hip to the toes. Sensation returned, as well as partial control of the bladder. One year ago a rash appeared on the trunk, the arms, and the legs; it lasted six weeks and was untreated. 2. A Temperature Chart from a case of Cerebral Hæmorrhage (Ventricular) which proved fatal in 16 hours, showing the differential rise on the paralysed side within three hours of the onset and becoming equal (101° F.) soon after somatic death.

Mr. J. F. DOBSON showed the following: 1. Three cases of Perforated Duodenal Ulcer, in which the Perforation was Sutured and Gastro-enterostomy was Performed. The first case was that of a male, aged 31 years, who was admitted to the Leeds Infirmary 24 hours after perforation. There was a large quantity of fluid in the abdomen. In the second case, that of a male, aged 29 years, perforation had occurred on the day before admission. In the third case, that of a male patient, perforation had occurred almost immediately after a mid-day meal and an operation was performed within eight hours. In all these cases drainage was effected through a tube into Douglas's pouch and another into the right kidney pouch. In the second case there was little extravasation around the perforation, but a large quantity of fluid in the pelvis. 2. A case of Rupture of the Liver. The patient was admitted to the Leeds Infirmary shortly after having been run over. He was not markedly collapsed, though there were some signs of fluid in the abdomen. On the following morning he was much worse and was clearly suffering from internal hæmorrhage; the abdomen was rigid, with shifting dulness. On opening the abdomen a large amount of blood escaped, and a rent was found at the back of the right lobe of the liver, which would admit the hand; on removing some clots free bleeding occurred. The hæmorrhage was stopped by firmly packing the rent with gauze. The packing was retained for a week and caused some suppuration.

Mr. A. L. WHITEHEAD showed (1) case in which vitreous degeneration had followed hæmorrhage into the anterior and posterior chambers, caused by a blow from a stone; and (2) a case in which a piece of steel was removed from the vitreous six months after entering the eyeball.

Mr. R. LAWFORD KNAGGS showed a case of Duodenal Fistula in which gastro-enterostomy and infolding of the pylorus were performed successfully. The patient was a female, aged 19 years, who had had abdominal symptoms from August, 1906, to January, 1907, when a local suppurative peritonitis was drained. In two months there were signs of duodenal fistula. In July posterior gastro-enterostomy was performed. The pylorus was pleated into a solid roll. In six weeks the fistula closed. In April, 1909, the sinus had quite healed.

Dr. CHURTON and Mr. LAWFORD KNAGGS showed a case in which there had been Symptoms of Gastric Ulcer and Œsophageal Obstruction. The patient, a female, aged 40 years, had had indigestion for 20 years. For the last 12 months pain had been coming on directly after food, and this was relieved by vomiting. The point of maximum tenderness was one and a half inches above the umbilicus. There was pain in the throat on swallowing as well as great wasting. On March 22nd the stomach and duodenum were explored but there was no sign of ulcer. Previously the stomach had been washed out (evidently it was the dilated œsophagus above the stricture—in which the stomach tube must have coiled up—that was washed out). After a temporary improvement vomiting returned (with large quantities of watery fluid). Being regarded as neurotic, an attempt was
made to feed the
that this did not
up bent at an ang
Since this operat
was rapidly impr
showed the dilat
narrow stricture o
one of spasm, possibly associated with ulcer close to the cardiac orifice of the stomach.

Dr. A. G. BARRS with Mr. B. G. A. MOYNIHAN showed a case of Perforated Typhoid Ulcer occurring at the end of the second week. Treatment consisted of suture and drainage.

Dr. W. H. MAXWELL TELLING showed the following: 1. A case of Disseminated Sclerosis with Optic Neuritis. There had been typical symptoms of seven months' duration. One month after the onset the sight of the right eye failed rather suddenly. On examination five months later there were moderate optic neuritis with atrophic changes in the disc in this eye and very slight and doubtful neuritic changes in the left eye. The visual fields were diminished in both eyes. In the right there was a central scotoma to white and green, and by this eye red was not visible as red. 2. A woman of normal mentality, aged 24 years, with Adenoma Sebaceum, which had been present for 21 years. 3. Two cases of Molluscum Contagiosum. In one case the nodules were scattered over the body; the eruption had been present for 30 years. In the second case the first nodule appeared on the penis a fortnight after infection and was followed by a small crop adjacently.

MEDICO-LEGAL SOCIETY.—A meeting of this society was held on April 27th, Dr. F. J. Smith, Vice-President, being in the chair.—Mr. A. Douglas Cowburn read a paper on Some Aspects of the Legal Responsibility of Medical Men. The motive actuating every man assisting another in illness must be, he said, to heal, to relieve suffering, and to prolong life. If he intentionally used any means to shorten life he was guilty of
any person, whether qualified
not, who professed by way of
life or health of His Majesty's subjects, was bound to possess competent skill to perform the task that he held himself out to perform, and was also under a duty to treat those under

in cases where the operation is performed before the rupture of the membranes, is quite unnecessary, as the liquor amnii has been shown to be aseptic, and the delivery of the uterus necessitates a much longer abdominal incision than is otherwise required. The use of an elastic ligature to prevent hæmorrhage is another procedure which has been given up by almost all operators of any experience, and one hardly expects to find at the present day the advice to use a drainage-tube after total abdominal hysterectomy.

Dr. Richard Norris writes on the important question of operations undertaken during pregnancy, and Dr. Barton Cooke Hirst on the operative treatment of sepsis in the child-bearing period, a title which hardly expresses accurately the scope of the section, referring as it does to puerperal sepsis. Dr. Hirst, on the whole, seems to favour interference in some of these cases; thus he quotes an instance in which the patient recovered after removal of the uterus although she had general systemic infection and septic pneumonia, a case which to us appears only to prove that many of these patients recover in spite of the treatment. This fact Treub, whose statistics the author quotes, has demonstrated in recording 724 cases of puerperal infection with 34 deaths, or a mortality of about 4·6 per cent., while, on the other hand, in 61 cases reported by Fehling in which hysterectomy was performed there was a mortality of 55·7 per cent.

Dr. Whitridge Williams contributes a very good account of extra-uterine gestation. The fact that decidual formation probably follows and does not precede the imbedding of the ovum is surely a strong argument against, and, indeed, would seem to negative altogether, the theory that decidual formation in the tube can be a possible cause of a tubal pregnancy. The author gives a very good *résumé* of the literature. The next chapter by Dr. J. C. Bloodgood contains a detailed and trustworthy account of diseases of the female breast, with a large number of exceedingly good illustrations, many of them coloured. A full description of the operative technique adopted in Halsted's clinique is given with a number of drawings. The very good results which are obtained after these extensive operations, as regards the functional use of the arm, are well shown in Figs. 541 and 542. There does not appear to be any reference in the chapter to Sampson Handley's important work on the lymphatics of the breast and its bearing on the various methods of operating. Operations on the gall-bladder, bile-ducts, and liver are described by Dr. Albert Ochsner in an admirable manner, full credit being given to the work of Mayo Robson and others in this branch of surgery.

The fact that the section dealing with operations on the stomach is contributed by Mr. B. G. A. Moynihan will show that it contains all that there is to be said on these important surgical procedures, and it is illustrated by a number of excellent illustrations by Mr. H. Becker. The article on pyloroplasty is from the pen of Dr. J. M. T. Finney. The chapter on intestinal surgery extends over more than 100 pages and is by Dr. J. B. Murphy. When we mention that the description of diseases of the appendix is written by Dr. Howard Kelly and Dr. Elizabeth Gurdon the reader will know that it is full of information. The chapter on the surgery of the spleen and that on the ureter are also written by Dr. Kelly, and are both good. Dr. Kelly recognises the extreme difficulty which often attends the treatment of ureteral fistulæ and is not very optimistic about the results of such operations. In his article on tuberculosis of the peritoneum Dr. G. B. Johnston voices the opinion of many surgeons of the present day when he concludes that in an affection of this kind "one's first efforts should be directed towards treating the patient, while the second consideration has to do with the best method of handling the local process." It appears very likely that the surgical treatment of such cases will give way more and more in the future to treatment by the physician.

One of the most interesting sections in the whole work is that giving an abstract of the literature of penetrating wounds of the abdomen in the chapter on that subject. The perplexing problems involved in the treatment of various septic conditions, with or without drainage, are discussed in detail in a chapter on the use of drainage in pelvic and abdominal surgery, by Dr. Brooke M. Anspach. The great advantages in many instances of drainage in the female by an incision through Douglas's pouch—a method which is too much neglected by the general surgeon—are rightly laid stress upon, and the ease with which it can be carried out is shown.

The surgery of the kidney is fully considered in a chapter extending to nearly 100 pages by Dr. C. P. Noble, in conjunction with Dr. Brooke Anspach. A very striking illustration in a book containing many fine drawings is that of a case of polycystic disease of the kidney.

The whole work reflects great credit on all concerned in its production and should prove of great value to all surgeons and practitioners. As we have already mentioned, the illustrations leave nothing to be desired and the printing and index are both excellent.

Neurasthenia. By GILBERT BALLET. Translated from the French by P. CAMPBELL SMITH, M.D. Durh. London: Henry Kimpton. 1908. Pp. 408. Price 6s. net.

THE present English edition has been taken from the third French edition, which appeared last year. The matter of the original work is wholly admirable, and the English form in which it has been clothed by Dr. Campbell Smith has in no way taken from its value. Indeed, the translator has succeeded in no small degree in reproducing in our tongue the terse directness of the original.

We note with satisfaction the stress which Professor Ballet lays upon defective education as an etiological factor in the production of neurasthenia. Our educational system, in endeavouring to produce strict uniformity in its methods, finds many for whom these methods are unsuited, with the result that the child, instead of starting life endowed with a firm will and enlightened judgment, has become capricious and obstinate, being devoid of strength of will and moral firmness. Over brain pressure in schoolboys shows itself in two forms: one in which there are insomnia, irritability, a nervous laugh, and palpitations; the other in which there are yawning, a frequent desire to sleep, inattention, and an expression of languor. Whereas the element of heredity is an important one in certain forms of neurasthenia, it is desirable that the education of children with a hereditary neurotic predisposition should pursue a triple aim: firstly, to develop harmoniously all the capacities of the individual; secondly, to keep down any tendency that may disorder the physical and moral equilibrium; and thirdly, to strengthen the energy and the physiological power of resistance of the nervous system. All moral education must aim at the following end: to convince the child that he is capable of good, and to make him believe that he has a will and may be master of himself. Nothing is so enervating, nothing so fitted to unbalance and weaken the nervous system, as to be wholly taken up with the pursuit of pleasure and the satisfaction of the least elevated and least noble desires. A lively interest in the useful part that each of us can fill in his position, according to his aptitudes and faculties, is not only a moralising element, but is also in certain respects a condition of health. Neurasthenia is often the natural but regrettable penalty paid by uselessness, idleness, and vanity.

The author is judicious in his remarks on the subject of psychotherapy. This is no new method of treatment, as we have ourselves pointed out, but it has lately been extolled to such an extent in certain quarters that it has been elevated into a panacea. It is, in fact, a system no more applicable to all cases than is electricity or hydrotherapy, and we only do harm if it is tried to employ it in all cases of the psychoneuroses without distinction. The good doctor is not he who has a system of his own, and applies it to all cases empirically, but he who is able to distinguish special indications and to adapt his treatment to the individual psychology of each patient. With these reservations psychotherapy is, in the author's opinion, of the greatest service in neurasthenia. So, too, of hypnotism. This method, useful to combat this or that incidental symptom of psychical nature arising in the course of nervous exhaustion, cannot be reasonably proposed as a mode of general treatment of neurasthenic conditions. Indeed, there is some danger in accustoming the patients to induced somnambulism, and not a few cases could be quoted in which hypnotism has manifestly determined the appearance of mental disorders of real gravity.

We are glad to note that the author is of opinion that the term "psychasthenia" should not be attached to the strongly marked borderland cases to which there is now a tendency to apply it. The term at present serves to denote the mental fatigue and the inability for brain work of simple neurasthenia, and it is a pity to change the meaning of the word to make it include other and very different states. The author gives us a long and exhaustive chapter on diet. The difficulty of this part of the treatment is notorious, and the practitioner will find here many useful hints to assist him in his arduous task.

We can confidently recommend this practical work. It has justly taken a high place in the literature of neurasthenia.

American Practice of Surgery. Editors: JOSEPH D. BRYANT, M.D., LL.D., and ALBERT H. BUCK, M.D. Complete in eight volumes. Profusely illustrated. Volume V. New York: William Wood and Company. 1908. Pp. 965. Price per volume, $7.

THE very important section of the Surgery of the Head has been undertaken by Dr. Edward Archibald of Montreal, and the article extends to 378 pages; in fact, it forms in itself an excellent treatise on cranial and cerebral surgery. Dr. Archibald discusses very fully the pathology of compression of the brain and his description is clear. The difficult subject of concussion of the brain receives a very full examination, and the author comes to the conclusion that concussion is at first due to a combination of mechanical and vascular disturbance, the vascular disturbance being a temporary anæmia. The more prolonged unconsciousness of concussion he considers to be due to the persistence of a partial anæmia, itself the result of an almost immediate interference with the capillary circulation by minute thromboses, and succeeded by the rapid development of intracerebral, or more especially of intra-cortical, œdema sufficient to induce an increase of cerebral pressure, while associated with this is a loss of the vaso-motor tone. The surgery of intracranial tumours is well described. Altogether the article is exceedingly good.

Dr. Charles H. Frazier of Philadelphia has written on the Surgery of the Cranial Nerves, and naturally most interest is connected with the fifth nerve. The various operations for severe tic are given, and Dr. Frazier then describes an operation he has devised for the division of the sensory fibres passing to the Gasserian ganglion. The method has been employed almost exclusively at the hospital of the University of Pennsylvania since 1901 with very satisfactory results. The ganglion is approached by the "auriculo-temporal route," and the patient is placed in the sitting position in order to lessen the hæmorrhage. The method is fully described and it deserves more attention than it has hitherto received.

Dr. C. G. B. de Nancrède of Ann Arbor has contributed the article on Surgical Diseases and Wounds of the Face. It is well illustrated and contains a very readable account of the surgery of this portion of the body. We may point out that the clinical and histological differences between ordinary squamous-celled carcinoma of the face and rodent ulcer are sufficiently clear to justify a greater distinction being drawn between them than is made here.

Dr. J. S. Stone of Boston, Massachusetts, has written the chapter on Harelip and Cleft Palate. On the question of the age at which a cleft palate should be treated Dr. Stone gives the ordinary arguments, and he arrives at the conclusion that the surgeon should wait at least six months and that waiting for 10 to 15 months would do no harm; he thinks, however, that the Brophy operation may be of value. In this country Mr. Arbuthnot Lane is the chief exponent of the early operation, and his operation is described in this chapter. Sufficient stress, however, is not laid on the value of the early operation in preventing the nasal voice; the condition is due to an arrest of development, and like other instances of this the earlier the tissues are put into a normal position the more closely will they approximate to the normal. Increased care is undoubtedly needed in the nursing of these cases, and the operation is distinctly more difficult the younger the patient, but the advantages are great.

The section on the Surgery of the Eye, by Dr. George C. Harlan of Philadelphia, is much fuller than is usually to be found in a treatise on general surgery. It occupies more than a hundred pages, and in addition to many illustrations in the text it has some good coloured figures. The account is very good and clear. We must, however, demur to the statements that molluscum contagiosum is derived from a sebaceous gland and that it is not contagious.

Dr. Robert Lewis, jun., of New York City is responsible for the article on the Surgery of the Ear. The description of the operation on the mastoid process and its communicating cavities is particularly deserving of mention. The closely allied subject of sinus thrombosis of otitic origin is dealt with by Dr. John D. Richards of New York City. The author is in favour of resecting the jugular vein rather than merely tying it, and he prefers that the resection should be performed low down, so as to prevent as far as possible the establishment of a collateral circulation. The account of the surgery of labyrinthine suppuration is especially good, and it has some excellent original illustrations. The section on the pyogenic diseases of the brain resulting from ear disease is from the pen of Dr. H. Ottridge Reik of Baltimore. In exploring the brain substance for an abscess he prefers a narrow knife and a "cigarette drain" for drainage of the abscess cavity.

Dr. Charles H. Knight of New York City has contributed a valuable article on the Surgery of the Pharynx, but we think that to employ the adjective "barbaric" to the operation of enucleation of the tonsil is unnecessarily severe. Dr. J. E. Newcombe is the author of the section on the Surgery of the Larynx and Trachea. This includes a good description of the methods of direct laryngoscopy and bronchoscopy. Laryngectomy is described by Dr. Frank Hartley, and with such a distinguished author it is hardly necessary to say that the account given is all that it should be.

Altogether this volume is fully up to the standard of its predecessors. We would suggest that it would assist busy readers if the contents of each volume could be indicated on the wide extent of the data on which his calculations are based, Dr. Forsyth contends that in the nature of the case these returns cannot generally be pathologically exact. He therefore raises the question, "Whether the official figures truly reflect the fatal conditions of infancy at the present day, and how far they carry us in devising remedial measures." In the course of an able criticism of the national death records, Dr. Forsyth comments on the prominent positions occupied by "marasmus" and convulsions, and on the relatively subordinate importance apparently attaching to syphilis, tubercle, and rickets. Whilst fully recognising the difficulty met with by even experienced clinicians in interpreting the symptomatology of infancy, he expresses astonishment that so large a proportion as 16 per cent. of the total mortality should be referred to marasmus, and 12 per cent. to convulsions, whilst only 5 per cent. are attributed to tubercle, 1·3 per cent. to congenital syphilis, and 0·6 per cent. to rickets. It is not easy to harmonise clinical experience with these figures. Marasmus, with its official synonyms atrophy and debility, is a term of vague significance, and is generally employed in connexion with diseases of which wasting is merely a symptom. Congenital syphilis is frequently met with in out-patient departments, and is particularly fatal to young children. Yet in the whole of England it is stated to be responsible for little more than 1 per cent. of the total infantile mortality. If hospital experience is to be trusted, this figure considerably understates the fact. The large proportion of deaths, some 20 per cent. of the whole, attributed to premature birth almost certainly includes a considerable number that should have been referred to this disease, and the scarcely less proportion referred to marasmus probably contains others. The general tenour of this criticism applies even more forcibly to convulsions, a term the use of which in medical certification has been forbidden by the Royal College of Physicians of London. The official figures under this heading are believed by many to be worthless for advancing our acquaintance with the fatal conditions of infancy, and we hold them to be actually misleading. They hide, under a meaningless designation, important fatal conditions, the returns for which are unduly minimised. In conclusion, Dr. Forsyth expresses the hope, in which we heartily concur, that the publication of the Evelina Hospital statistics will lead to the preparation of corresponding figures for other hospitals. By this means a far-reaching and practical measure will have been secured for diminishing the present excessive waste of infant life.

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Rheumatic Fever.

In the Lumleian Lectures delivered this year before the Royal College of Physicians of London (the concluding lecture being published at p. 1297 of this issue) Dr. Norman Moore selected a subject which is of widespread interest—namely, Rheumatic Fever and Valvular Disease. In the older textbooks rheumatic fever, or as it was, and indeed is, frequently called "acute rheumatism," was classified under "Diseases of the Joints," but in the "Nomenclature of Diseases," drawn up by a joint committee appointed by the Royal College of Physicians of London, it is now rightly placed under "Infective Diseases." As Dr. Moore pointed out, it is so common a disease that every physician has seen very many examples of it, yet its natural history is still obscure in several directions. He also remarked that its name recalls a pathology long anterior to the revival of learning. His erudite and interesting account of the historical literature of the disease will be found most attractive. Following the usual course of knowledge about any particular disease, some prominent symptom was first noticed and then assumed to be the whole disease—in the case of "acute rheumatism" the affection of the joints was naturally selected as the predominant feature—but progressive observation has gradually demonstrated that this prominent symptom may be a result of several distinct morbid conditions. Thus, the single disease of past generations of medical authorities comes to be divided into two or more separate maladies, and separate terms are necessary to distinguish them. The distinction between typhoid and typhus fevers is an example of this advance of knowledge. In the case of "rheumatism," although the nosology of affections of the joints leaves much to be desired, yet it is now recognised that rheumatic fever is a distinct disease, entirely apart from other acute, subacute, or chronic affections of the joints, such as septic arthritis, gonorrhœal rheumatism, chronic rheumatism, and the various conditions classified under the term "rheumatoid arthritis." We endorse Dr. Moore's contention that since it is desirable to avoid the suggestion of any pathological relation to chronic rheumatism, it would be better for the term "acute rheumatism" to fall out of use, and that the words "rheumatic fever" be invariably adopted. We also join in the protest against the term "subacute rheumatism," which he considers should never be used, as it naturally suggests an absence of importance which attaches to no case, however slight, of rheumatic fever.

We have said that it is now generally accepted that the condition we are considering must be placed amongst the specific fevers, but at present it must be reckoned amongst those fevers the bacteriology of which remains uncertain. Numerous investigations have been made on the subject, and several observers have claimed to have isolated the pathogenic organism. Dr. F. J. Poynton and Dr. A. Paine described a diplococcus which they concluded was *a* cause of rheumatic fever and from further experiments believed it to be *the* cause, and Dr. J. M. Beattie isolated a similar organism. By intravenous inoculation the last-named observer produced endocarditis, polyarthritis, and chorea—a combination of lesions similar to those occurring in connexion with rheumatic fever. Other investigators, however, have failed to corroborate these observations, and the "micrococcus rheumaticus" cannot yet be accepted as the true bacteriological factor of the disease. Dr. W. Bulloch maintains that it does not fulfil all, or indeed any, of Koch's postulates. It is not found, he says, in every case of the disease, and the effects which it produces experimentally do not differ essentially from those produced by cocci having nothing to do with rheumatic fever. But although the bacteriology must still be left in doubt, there is no uncertainty about the pathology of the malady, the essential phenomena being found in the joints and in the endocardium. Hitherto the condition of the joints has been considered as the principal element in rheumatic fever; Dr. NORMAN MOORE, however, insists that the endocarditis is not to be regarded simply as a frequent complication, but as the essential and invariable feature of the affection. He maintains that endocarditis is always present, and that in most cases, but not in all, it produces some permanent alteration in one or more valves. In proof of this assertion he states that, if the heart in a mild case of rheumatic fever is only auscultated at the beginning and end of the disease the sounds may sometimes seem to be unaltered, and it may therefore be assumed that they have been normal throughout, but if the heart is examined daily changes in its sounds will, in his experience, always be discovered. He considers that this fact, taken in conjunction with the evidence of the frequency of definite valvular diseases as a result of rheumatic fever, and with the frequency of a history of rheumatic *fever in cases of valvular disease belonging to the first half of* life, justifies the belief that those variations in sound may be taken as evidence of the presence of endocarditis, even though no permanent valvular lesion may ultimately be produced. He further mentions in support of his argument a *fact that is generally accepted—namely, that the size or* number of the joints affected has no direct relation to either the severity of the endocarditis or to the seriousness of the consequent valvular disease. Referring to the etiology of the disease, Dr. MOORE expresses the opinion that, whatever the point of entrance and line thence of travel, the endocardium is to be regarded as the invariable centre and primary region of growth of the pathogenic organism, so that the swollen joints may be considered as "so many colonial settlements proceeding thence."

Dr. MOORE'S remarks call for careful consideration. In support of the statement that the affection of the joints is not the primary seat of the disease, a consideration of the changes which occur in them is of interest. The lecturer pointed out that the affected joints appear to recover completely; he has not seen a single case of stiff joint from this cause in his wards during the last six years. If a patient dies during the attack as the result of cardiac failure no characteristic changes are found in the structures of the joints, neither thickening nor results of degeneration. There may be an increase in the quantity of synovial fluid, but the hyperæmia which probably existed during life has disappeared. There may be also temporarily a swollen and infiltrated condition of the synovial membrane, but if the patient had lived this would have subsided, leaving the tissues perfectly healthy. Another suggestive fact is demonstrated by a clinical feature which is sometimes noticed in individuals who have recovered from an attack of rheumatic fever, but are suffering from the effects of the endocarditis, in most cases a lesion of the mitral valve. If the temperature is taken regularly occasional moderate rises of temperature will be noticed; may not this be caused by the presence of the organism still in a state of activity in the endocardium? Dr. MOORE records several cases which would support this view, and asks the question, Does the organism cease to exist when the disease is apparently at an end, as does the pneumococcus of pneumonia, or does it, like the tubercle bacillus, live on indefinitely in the body, maintaining its lodgment for a time, not spreading, then again multiplying and doing more injury, sometimes finally dying out? We are inclined to the latter view, and in addition to the clinical phenomenon we have just mentioned the course which rheumatic fever often follows in children is significant. In young life endocarditis comes on in an insidious progressive form, and the arthritis may be slight or at the time inappreciable. In subsequent years a valvular lesion is discovered, indicating for the first time the true nature of the former illness. In further support of the continued presence of the pathogenic organism in the endocardium, Dr. MOORE adduces the fact that many attacks of the disease occur in the same individual, suggesting that these attacks are successive developments of an organism which has never been eradicated. We have only considered one division of the Lumleian Lectures; the remarks on valvular disease and the prognosis and treatment of rheumatic fever are equally interesting, and, as is always the case when Dr. NORMAN MOORE is the author, the attractive literary style and wide general information lend a charm to his statements, deductions, and suggestions.

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Is Beri-beri Caused by Rice?

BERI-BERI has been hitherto regarded as a mysterious disease which has defied the efforts of investigators, but there are grounds for believing that its etiology is now in a fair way to be solved. The chief views which have been held as to the causation of this malady have been: (1) that it was a peripheral neuritis of paludal origin; (2) that it was due to nitrogen starvation; (3) that it was a microbial infectious disease; and (4) that it was caused by a toxin the product of a saprophyte outside the human body. All of these theories have been investigated, more especially by those who had opportunities for studying the disease in the Malay Peninsula and East Indian Archipelago, in which region it is estimated that nearly a fifth of the population suffer from the malady. There has been of late an increasing consensus of opinion that beri-beri is due in some way to the consumption of rice, and the arguments in favour of this view have been recently restated by Dr. W. LEONARD BRADDON of Selangor, Federated Malay States, a well-known authority on the subject. In a paper which was read for him by Dr. T. S. KERR at the April meeting of the Society of Tropical Medicine and Hygiene, a summary of which we published in THE LANCET of April 24th, Dr. BRADDON asserts that always and everywhere the uncured rice-eating community (the Chinese) suffered from beri-beri, while the eaters of cured rice (the Tamils) with equal invariability escaped. Also it is beyond dispute that those who eat rice that is fresh (the agricultural Malays and Dyaks) were exempt. So that it is not so much the eating of rice that is the source of the mischief, but the eating of a particular kind of rice—namely, that which is uncured. This uncured rice is the ordinary white rice of commerce imported usually from Siam, Saigon, Burma, or Java, and decorticated in mills by a process which scours away, together with the husk, all the surface layer of the seed. It is nearly always stored for some time before it is consumed and is consequently liable to be "stale." The cured rice used by the Tamils is soaked for a short time, then rapidly steamed, and then dried, after which the husk is easily separated by light milling. The whole of the inner envelope and the surface layer of seed cells, which contain a large part of the total proteins and fat of the seed, are preserved intact. Rice which has lost its protective envelope is obviously likely to deteriorate and become "stale" or mouldy. The presence of a poison developed in stale uncured rice explains, in Dr. BRADDON'S opinion, all the phenomena of beri-beri. The toxic quality of uncured rice is an added effect, either the grain itself becoming altered in its nature or becoming the seat of growth of agents, ferments, bacteria or fungi, which produce a poison of their own. He conjectures that the active agent is some epiphyte existing in or upon the envelope of the rice, and able to invade it saprophytically under appropriate conditions when husked. This epiphyte he maintains to be specific to rice, since the use of no other cereal has been proved to entail beri-beri.

It has been urged against the rice theory of the causation of beri-beri that it is only a coincidence, since the disease is endemic in regions where rice is the staple article of diet. That the occurrence of beri-beri among eaters of uncured rice is no coincidence was proved by the recent observations of Dr. HENRY FRASER and Dr. A. T. STANTON of Kuala Lumpur, published in THE LANCET of Feb. 13th of this year. These observers investigated the conditions under which two parties of coolies, carefully selected and examined, were working in the virgin forest, living in new huts and kept under the most hygienic conditions practicable, one party feeding on cured and the other on uncured rice. In the course of some weeks beri-beri developed among the latter, but was quickly cured when they were put on a diet of cured rice. The party fed on cured rice remained in good health. These observations largely dispose of the theory of infection either of person or place, and show that beri-beri requires no assistance from transmitters such as biting beetles, bed bugs, or body lice, which according to some are responsible agents in diffusing the disease. It was pointed out in 1905 by Dr. C. HOSE, who had spent many years in Borneo, that the rice supplied to the coolies employed on plantations or public works was generally provided by contractors, and was often of an inferior kind, the contractor being tempted to supply the inferior article to increase his own profit. Dr. HOSE had often examined contractors' rice, and he attached suspicion to the constant presence in this mouldy rice of a small beetle or weevil as likely to be related to the cause of beri-beri. Chinese coolies are often conveyed to great distances to labour in plantations or constructive works, and it has been quoted as an argument in favour of the infection theory that the disease was carried by the coolies to their new place of abode. But on the above facts the explanation is easy if it be recognised that the contractors' rice is also carried to the new home, and probably in this case the mischief is intensified by the increased distance and the longer time the rice is in transit. It has often, too, been asserted that the rapid reduction of beri-beri in the Japanese navy was due to the addition of fat pork to the dietary, and therefore that rice could not have been the cause of the disease. It has to be borne in mind that the amount of rice consumed has to be considered. Chinese coolies who consume large quantities of rice suffer most. But if the rice in a dietary be replaced in some amount by animal food the quantity of poison taken must be correspondingly reduced and with it the risk of contracting beri-beri also.

A frequent argument adduced against the rice theory is that beri-beri occurs in ships at sea among European sailors who do not largely live on rice. It has to be remembered that beri-beri is by some regarded more as a clinical than an etiological entity, and that it is very liable to be confounded with other morbid conditions such as alcoholic or arsenical neuritis, malarial cachexia, epidemic dropsy, pernicious anæmia, pellagra, and scurvy. It is therefore possible that ship beri-beri, though clinically resembling the Asiatic variety, is not the same disease. The Norwegian Commission, of which Professor UCHERMANN of Christiania was president, and which was appointed in 1902 to inquire into the origin of beri-beri so common on board Norwegian sailing ships on long voyages, defined beri-beri as "the oriental name given to a multiple neuritis which is due to a toxin intoxication by tainted (stale) vegetable or animal food. The vegetable form closely corresponds to the Asiatic variety, and is usually owing to the eating of tainted rice. The animal form corresponds particularly with the beri-beri which appears on European ships and is due to the eating of tainted tinned food." Whether or not the ship beri-beri be the same as that which afflicts the Chinese coolie does not in our opinion affect the contention, put forward recently by Dr. BRADDON, Dr. FRASER, and Dr. STANTON in our columns, that the eating of uncured rice is the cause of beri-beri in the Far East. There can, we think, be no question as to the incrimination of uncured rice. The point now remaining to be demonstrated is whether the symptoms of the disease are the result of a nitrogen starvation or are due to a toxin produced in the rice by some organism. We look forward with confident expectation that a solution of this problem will be forthcoming from one or other of the scientific investigators who are now working in the regions where beri-beri most abounds.

Annotations.

"Ne quid nimis."

THE POOR-LAW COMMISSION: REPORT ON IRELAND.

THE Royal Commission on Poor-laws and Relief of Distress has issued during the week as a separate volume the report on Poor-law administration with respect to Ireland. Here, also, as in the report dealing with England, we have a Majority and a Minority Report, in addition to which there is a separate Memorandum by the two Irish members of the Commission, the Bishop of Ross and Sir Henry Robinson, criticising the Minority Report, whose report is in itself a criticism of the Majority Report. The Majority Report, which comprises 83 out of 87 pages of the Blue-book, is signed by Lord George Hamilton, the Bishop of Ross, Sir Henry Robinson, Sir Samuel Provis, Mr. F. Holdsworth Bentham, the Rev. Thomas Gage Gardiner, Mr. C. S. Loch, Mr. J. Patten MacDougall, Mr. T. Hancock Nunn, the Rev. L. R. Phelps, Professor Smart, Mrs. Helen Bosanquet, and Miss Octavia Hill, all of whom were signatories of the English Majority Report. The Minority Report, a very brief dissent from the Majority Report, is signed by the Rev. H. Russell Wakefield, Mr. F. Chandler, Mr. George Lansbury, and Mrs. Sidney Webb, *all of whom were signatories of the English Minority* Report; while the separate Memorandum bears, as we have said, the names of the Bishop of Ross and Sir Henry Robinson. The labours of the Commissioners, as far as Ireland is concerned, were much spared by the fact that they felt themselves, at least those who signed the Majority Report did, able to adopt the greater part of the recommendations for the reform of the Irish Poor-law which were published by the Viceregal Commission in Ireland shortly after the appointment of the Royal Commission.[1] An interesting historical summary of Irish Poor-law administration is given in the latest Blue-book, and the various points in which the recommendations of the Viceregal Commission fit with the proposals already made by the Royal Commission for Reform of the Poor-law in England are considered favourably. The gist of the report consequently is the recommendation of the establishment of a Public Assistance Authority to take over the work of boards of guardians, which will be abolished, and to control the Dispensary Medical Service, which it is proposed to turn into a proper county service with a county superintendent and bacteriologist.

MEDICAL MEN AND THE BUDGET.

WE are not a political journal, but when political proposals seem likely to bear hardly on the members of our own profession it is our duty to protest. And there is one tax which as it stands at present—and the clause in the Budget which levies this tax has already passed the Commons—bids fair to weigh heavily upon an overworked and underpaid class of medical men—namely, the general practitioner in the country. This tax is the impost of 3*d.* per gallon on petrol. One of the chief Government organs in its issue of April 30th remarked: "Private motor cars are always a luxury, and often an anti-social luxury." As regards cars used by medical men, they stand on exactly the same footing as the bicycle which many working men use to carry them *to and from their work. If the one is a luxury so is the* other. Both classes use mechanical methods of transit, first on account of cheapness, and secondly because by so doing they get a little more leisure than they otherwise would. Before the *advent of the motor-car* many general practitioners worked with horses from 14 to 16 hours per diem, but when they gave up horses and took to a car they were enabled to obtain some three or four hours more leisure than before. This may be luxury, but it is certainly not anti-social. The tax will press heavily upon such men as these. Take a concrete instance. In one district of the South-East of England are some 40 medical men, of whom at least 30 drive a car. The average net income of these men is from £600 to £700 per annum and the new tax will impose an extra burden upon them of from £5 to £15 yearly according to their mileage. In more scattered districts the burden will be far heavier. Many medical men in hilly districts in Wales and Yorkshire drive from 7000 to 10,000 miles a year and will have to pay over £20 in tax for their petrol. The rebate allowed to medical men in their car tax will practically make no difference, for as the duty stands at present a medical man pays a duty of two guineas for his car. In future a medical man driving a car under 16 horse-power, and we may say that hardly any general practitioner drives a more highly powered one, will pay exactly the same, that is to say one half of £4 4*s.* The medical man should at least be allowed the rebate on his petrol, which is to be allowed to motor omnibuses and motor cabs. For too long has the medical profession been made *the scapegoat of Governments.* Day by day new duties are imposed upon it without any corresponding pay, and at least in one case with a penalty attached if the new duty is not carried out. The recent Budget places a heavy tax upon many general practitioners, which is accompanied by a concession which is of no real value.

MEDICAL TREATMENT OF LONDON SCHOOL CHILDREN: THE LONDON COUNTY COUNCIL AND THE CLAIMS OF THE MEDICAL PROFESSION.

WE publish this week a synopsis of an interesting statement issued to members of the London County Council on the subject of the medical treatment of London school children (see p. 1343), and in another column (see p. 1347) will be found a strenuous letter from Dr. H. Beckett-Overy pointing out the risk that there is in the present circumstances of the medical profession being considerably exploited. We hope and believe that this risk is not so acute as Dr. Beckett-Overy seems to think, and we do not suppose for a moment that the chairmen and secretaries of the London hospitals, whether they agree with any proposals made to them by the London County Council or no, will come to any decision in the matter without a proper consultation with their medical staffs. Our information here is to an exactly opposite effect to Dr. Beckett-Overy's. As a matter of fact, the whole question *is at this moment before the authorities of the London* hospitals, and we are able to say that the just claims of the medical profession do not appear in the least likely to go unsupported. The matter will resolve itself, of *course, largely into the treatment of adenoids, deafness,* and of various forms of inadequacy of sight and dentition, and to a certain extent the little patients would in any circumstances attend the hospitals for relief, and with perfect right, for many of them belong genuinely to the class for which the voluntary hospitals were established and are maintained. Referring now only to those who are proper objects of charity, the question is really whether special clinics set up by the London County Council and staffed by the education medical officers should do the work, o whether the hospitals should do the work. It is perfectly clear that the London County Council has no right to get the work done for nothing, and we credit it with taking this view and with not desiring to exploit the medical profession. If school clinics are founded, as seems to be *the desire of the majority* of the special committee of the Council dealing with the subject, it will fall to the lot of salaried medical officers to manage such clinics, and payment on some scale or other will duly follow. But all the patients are not proper objects of charity, and here it seems *inevitable* that the general practitioner will have taken away from him a certain number of cases which he could well deal with, whether the hospitals arrange to do the work or whether it is done by school clinics. In some general practices the number of cases lost may be quite considerable. With regard to payments made to *hospitals by* the London County Council, there will be a difference of opinion as to their propriety. The hospitals ought to be paid, as a matter of abstract justice, because there is no reason why they should gratuitously relieve the burden of the London County Council by presenting it with the results of medical skill and service. But the difficulty presented by a voluntary charity staffed by unpaid officers accepting payment from the rates for work done seems almost insuperable. Such payment, while aggravating the difficult position of the general practitioner, is a large step towards that municipalisation of the hospitals for which we are not yet prepared, and which, if and when it comes, must bring with it the adequate payment of the medical staffs. There are some good arguments against the utilisation of the hospitals in addition to those which have already been made known to the London County Council in the circular statement. To mention one more only, the Council might demand representation on the governing bodies of the hospitals in return for its subsidies, and this demand would, we take it, be refused by even those institutions now favourable to the scheme. Arguments in support of the alternative scheme of school clinics must, however, be scanty, as we have no practical experience of their working in this country. But we cannot see that the institution of school clinics would remove patients from the care of the general practitioner any more than subsidized treatment at the hospitals. Of one thing we feel sure, that the various committees of the hospitals will debate these points thoroughly, and will recognise the extreme gravity of the issues raised. Whoever does the work for the London County Council ought to be paid, and the idea of using the honorary services of the medical staffs in return for a grant to hospital funds seems to us monstrous. Is it not a case in which the opinion of these staffs might be consolidated by some meeting among themselves?

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[1] These recommendations were published at length in THE LANCET of Nov. 24th, 1906, p. 1460.

OUR BLEACHED DAILY BREAD.

IN our columns on March 20th and March 27th respectively two annotations appeared under this heading which, it has been suggested to us, require modification in view of a judgment delivered by Mr. Justice Warrington on April 28th in the case of the Flour Oxidizing Company, Limited, *v.* Hutchinson. Our notes had nothing whatever to do wittingly with this case, which is not alluded to in any way, and of the existence of which we had no knowledge; but we are informed that the statements made by Mr. E. F. Ladd and Mr. H. L. White in the *Chemical News* of March 19th, referred to by us, were made the subject of actual investigation in the action and that the evidence of Dr. A. P. Luff, Dr. W. H. Willcox, and Dr. W. D. Halliburton led Mr. Justice Warrington to the conclusion that the process, or some similar process, employed by the Flour Oxidizing Company, Limited, had no injurious effect on flour. Mr. Justice Warrington, after pointing out that the method employed by the Flour Oxidizing Company would render it less likely to be attacked by mites and other organisms, went on to say, relying on experiments made by Dr. Halliburton, "the result, in my opinion, of the whole of those experiments, taking them as a whole, is, that so far as the bread made from the flour is concerned, which is the important part, there is no substantial difference, in point of digestibility, between the bread made from the untreated flour and the bread made from the treated flour." Upon the question whether the flour had had imparted to it certain toxic qualities by the plaintiffs' process, Mr. Justice Warrington considered that the experiments of Mr. Ladd, to which we alluded in our annotation on March 27th, failed to prove this point. "Dr. Willcox and Dr. Luff," he said, "who are two of the most eminent men in their branch of the medical profession, have made experiments on rabbits with concentrated extracts of flour bleached under the plaintiffs' process, and they made those extracts following minutely the directions given by Dr. Ladd, and they have administered them to rabbits—a large number—have kept those rabbits under observation for many days after administration, and have observed no effect on the rabbits beyond temporary intoxication caused by the fact that the extract was alcoholic." His lordship added that he found no positive facts that the nutritive quality of the flour was deleteriously affected by the process.

THE NATIONAL LEAGUE OF PHYSICAL EDUCATION AND IMPROVEMENT.

THOUGH we who have our part in the complex civilisation of the twentieth century be in truth the heirs of all the ages of science and invention and philosophy, it is certain that our forefathers have not handed down to us the full endowment of their more ancient heritage. It is, for instance, a safe assertion that the Athenians of the fifth century before Christ held in far higher regard the physical culture of their sons and daughters than we in England to-day in spite of the boast of our national devotion to athletic pursuits, and in spite of our scientific knowledge of the principles upon which sanitation must be based. We do not, of course, mean that their death-rate was not more than ours (though their infant mortality was surely no greater), but that every family set up for itself an individual ideal of health unknown in modern England. The reason was, of course, that the Greeks were inspired with an æsthetic motive that would only be satisfied by the training of the human body in such a manner as to fit it for the honour due to the highest material expression of beauty, with the result that the Grecian form, perpetuated in Grecian marble, has been the wonder and the despair of generations of artists in far later centuries. And granting that the Greeks were powerless to protect themselves against the ravages of infectious disease, granting that the communal hygienic arrangements in the days of Pheidias were in no degree comparable to those of a modern city, still we believe that their intense love for physical perfection in a country where sunshine, fresh air, and good food were everybody's birthright produced a national result which is as unattainable by the modern social reformer as the great spirit of Grecian art is remote from the modern studio. But there is more than one road up most mountains, and if we cannot expect that an improvement will be effected in our national physique by an appeal to the nation's æsthetic perceptions, it is not too much to hope that it may be brought about by first adding to the nation's knowledge of the rules of health and disease, and then appealing to its common sense to apply them. Education, in a word, must be the spirit moving through the land to teach the masses of our people that what was good enough for their fathers in the matter of physical well-being is not good enough for them. Legislation and inspection may indeed afford the machinery for a faultless national hygiene, but it must remain ineffective in the main if in the tenement houses and cottages throughout the country there is not an intelligent appreciation of the reasons behind sanitary laws and of the great benefits which will accrue to those families that scrupulously obey them. Of recent agencies which have arisen for the diffusion of such knowledge, the National League of Physical Education and Improvement is pre-eminently active in promulgating the gospel of health. We have already announced the delivery of several lectures and addresses under its auspices, and now have to record the widening of its appeal at a Mansion

House meeting held at the end of April under the presidency of the Lord Mayor, at which such influential speakers as the Bishop of Ripon, Lord Halsbury, the Duke of Argyll, Sir Henry Craik, and Sir John Tweedy spoke in favour of the objects of the league, aims which are fairly summarised in its title. Resolutions were carried proclaiming the "imperative necessity for the provision of pure milk in order to lessen the appalling mortality that at present prevails among infants" (a resolution to which it will be remembered that Mr. John Burns is pledged to give early legislative effect); and proclaiming "that in the interests of the physical welfare of the coming generation provision of health visitors is of cardinal importance," a course which the league is urging upon local authorities; and "that physical education should be made compulsory in all schools, subject to proper medical supervision." These three resolutions embody a strong programme, and if adequate and widespread effect can be given to these alone by the league they would well justify its existence. We would repeat our advice that the league should make its first object the education of the people. It can do no greater service than to make fertile the soil to receive such legislative sanitary seed as may in the future fall upon it. It is true that many years have elapsed since Beaconsfield uttered his dictum that the nation's health should be amongst its statesmen's first duties, and we know that the health of our country is still a long way from occupying so prominent a position in our affairs of State. But when we think of what has been effected in sanitary reform during the last 50 years we have a great deal to be thankful for, and we repeat that when every child is taught how to keep healthy, and that to do so is a prime duty of citizenship, we may hope for a revival of the Grecian spirit that reverenced the perfection of the body only less than it abhorred its deformities.

APRIL AT HOME AND ABROAD.

THE month that has just elapsed was remarkable for its brilliancy in the United Kingdom and for its dryness over the greater part of southern Europe and the Mediterranean. It is very seldom that so great a quantity of sunshine distinguishes the month in this country, and according to the records since the observations began to be general 28 years ago there are only two Aprils with such a brilliant record. The first was in 1893, when the weather was really summer-like and almost entirely rainless, and the other occasion was in 1906. During both months the sunshine figures were about equal to those of the month under discussion over the major portion of England, but some localities have never enjoyed before such a bountiful supply of April sunshine. Among the number of these is London (Westminster), where the grand total of 220 hours exceeded the average by 106 hours, and also exceeded the averages for the summer months of June, July, and August. The midland counties and some northern cities were also remarkably bright, the total number of hours at Manchester, a place where the sun is so often obscured by smoky fog even when there is no cloud, amounting to 192 hours, while at Nottingham the month's record was 238 hours, a figure fully 100 hours in excess of the normal. Over the kingdom generally the temperature was about two degrees above the average, and the diurnal range usually small for the time of year. Very fine weather was also the rule over the Mediterranean region and the Spanish Peninsula, rainy days being extremely rare, and the sky generally almost free from cloud, while the temperature made a striking advance towards its summer figure. As is invariably the case at this time of year, Italy and all the southern parts of France were much warmer than the warmest spots in this country, and Paris, which during the winter months is nearly always colder than London, was very appreciably warmer, the mean warmth of the afternoon being as much as 6° greater. At Algiers the mean temperature of the daytime equalled the day average of June in London, while its nights were slightly warmer than the average night of the London July. The most agreeable weather of all was probably experienced at Madeira, where the maximum warmth of the days was never less than 63° and never greater than 68°. During more than half the month the maximum temperature was either 66° or 68°, and except on one day the period was entirely rainless.

—	Highest temperature.	Lowest temperature.	Mean maximum temperature.	Mean minimum temperature.	Mean temperature for month.	Mean diurnal range of temperature.	Number of days with rain.	Total fall in month.
	°	°	°	°	°	°		
Scilly	60	43	66	47	51·6	9	14	2·03
Jersey	71	37	68	45	51·2	13	7	0·90
Torquay	68	38	56	44	49·9	12	5	1·76
Weymouth	67	34	55	43	49·0	12	9	1·17
Bournemouth ...	70	30	57	41	48·9	16	8	1·31
Brighton	65	31	57	42	49·7	15	6	0·88
Bath	72	29	59	39	49·0	20	10	1·87
Harrogate	68	28	55	37	46·1	18	15	3·31
Buxton	65	24	55	35	44·9	20	16	3·53
Manchester... ...	67	30	57	41	49·1	16	13	3·01
Nottingham ...	69	28	58	38	47·9	20	9	1·34
London...	70	34	58	42	50·1	16	9	1·96
Paris	77	29	64	42	53·0	22	7	1·39
Brussels	78	27	59	41	50·3	18	14	2·29
Berlin	70	27	57	40	48·5	17	16	1·89
Nice	72	29	63	47	54·9	16	4	0·32
Florence	80	38	67	47	57·2	20	1	0·04
Rome	80	41	67	50	58·5	17	3	2·08
Naples	79	42	65	52	58·4	13	4	1·74
Palermo	87	41	67	49	58·0	18	6	0·75
Malta	72	48	65	55	60·1	10	2	1·48
Palma, Majorca...	79	39	66	51	58·5	15	3	0·75
Algiers	91	48	69	55	62·1	14	6	0·44
Biarritz	81	37	64	49	56·5	16	6	0·83
Lisbon	77	50	68	54	61·1	14	1	0·04
Madeira, Funchal.	68	48	66	50	58·0	16	1	0·12

ENDEMIC HÆMATURIA.

SINCE 1852, when Bilharz showed that endemic hæmaturia was due to the presence in the body of a special form of distomum, no doubt has ever been cast on the correctness of his demonstration, and the causal connexion of the hæmaturia and the organism has been acknowledged by all. A further problem, however, in regard to the disease has not yet been satisfactorily solved. This question is the mode of entrance of the bilharzia into the body. The generally received opinion is that it is taken in with drinking water, and makes its way into the blood-vessels and by the blood stream is carried to the urinary organs. One argument against this view is that monkeys and other animals which have been fed with free embryos have not become infected with the disease. This argument is of some weight, but too much stress must not be laid upon it. It is at least curious that the eggs have never been detected in the stomach. Dr. James F. Allen of Pietermaritzburg has had an extensive experience of the disease, for it is extremely prevalent in Natal, and he has held for some years the opinion that the organism *enters the body, not* by the mouth, but by the urethra and sometimes by the anus. In the present issue of THE LANCET (p. 1317) he makes a further contribution to the subject, and he claims that the symptoms demonstrate that the urethra is affected before the bladder, and the bladder before the kidneys. He holds that the entrance of the distomum occurs during bathing, and that its entrance is favoured by a long foreskin, as the water containing the worm then remains in contact with the meatus sufficiently long to allow the worm to enter the urethra. Dr. Allen finds that if precautions be taken to prevent the entrance of the worm the disease does not occur, or if the patient has already become infected further infection is prevented. We would not venture to express a decided opinion on so difficult a matter, but it cannot be denied that there appears to be some ground for Dr. Allen's contention, though he has not yet succeeded in proving his thesis. Further observations and further experiments are required before this important question is conclusively settled.

AERIAL NAVIGATION: PAST, PRESENT, AND FUTURE.

LITTLE did Horace imagine when he moralised over the ill-inspired daring of a Daedalus who essayed to "wing the blue depths"—

"Pennis non homini datis,"

or when he dwelt on the vain ambition of an Archytas—

"Aërias temptasse domos,"

that a few miles out of Rome, on the way to his beloved Tibur, an airship would one day be seen describing all manner of liquid curves at an altitude of many hundred feet from the ground, and that having covered 60 *millia passuum* (Roman miles) it would descend triumphantly to the greensward from which it took flight, bearing on board a crew of distinguished passengers to receive the congratulations of a crowd of Quirites on their having, after careering through the heavenly spaces, touched *terra firma* in safety once more! Such, indeed, was the spectacle afforded in the past Easter week at Rome by Mr. Wilbur Wright who has recently visited England—a spectacle that set the thousands of eye-witnesses athinking on the potentialities of a new form of locomotion, whether in the interests of peace or in the interests of war. Not for the first time has aerial navigation been an accomplished fact, as M. Fraikin, in the *Revue Ebdomadaire*, has just reminded us. But the eighteenth century flights to which he refers were quite wanting in the means of directing and controlling movement, above all in the "staying-power," so successfully realised by the American mechanician. Leaving the combatant or strategic aspects of the now fairly launched airship to the military and naval experts of the rival nationalities, we may pause for a moment to contemplate the resources it offers to the invalid requiring change, whether climatic or atmospheric, or in quest of new conditions in the matter of warmth or coolness, or, hygienically considered, of escape from the unlovely, unwholesome neighbourhood of the crowded centres of population and industry. Some 15 years ago THE LANCET opened its columns to suggestion and discussion in this sense, and if the subject dropped before getting beyond the stage of a "pious opinion," its being started at all was symptomatic of a dim presentiment that science was ripe for some such new departure as that of which Mr. Wilbur Wright is the "hero and eponymus." Even the captive balloon, it was then maintained, might have its uses in vouchsafing the invalid an interval of respite "far from the madding crowd" or in forming a variety of "rest cure" not unwelcome to many a valetudinarian who had exhausted the traditional "alteratives" in favour with such cases. All this, we repeat, is only referred to as showing in the not distant past a dim consciousness that an unexplored, unattempted field of therapeutic utility was awaiting the advent of the mechanician ingenious enough and persevering enough to overcome obstacles hitherto held to be insurmountable, and to prove once more the truth of the Baconian induction that there is no limit to what human inventiveness can achieve when working, with the due equipment, on the lines of experimental science.

TRANSMUTATION OR IMPURITY?

THE theory of electrons, which would teach that all elements are fashioned out of one prime material, and that the form which the element ultimately takes depends on an amount of energy represented by more or less electrons, is so attractive that fresh facts which appear to support this view will be welcomed. An experiment described in the *Chemical News* of April 30th at first sight seems to supply some evidence of the resolution of one element into another by exposing it to the influence of high potential discharge. The results are communicated by Mr. Bayard G. Cobb of Dawson City, Yukon, Canada. Minute precautions were first taken to prepare an absolutely pure amorphous gold by methods well known to chemists. The pure gold was then placed in a tube furnished with rubber corks carrying electrodes connected with the terminals of the high tension windings of a 10-inch induction coil. A current was passed and a spark was discharged through the tube containing the gold for half an hour, at the end of which time the amorphous element was withdrawn and examined. The gold showed radio-active properties, but, more important still, on dissolving it in aqua regia and examining the solution, copper was undisputably found to be present. The experiment was repeated four times with a similar result every time. Another tube was fitted up, but this time it was made partly vacuous. "On the passage of the current for three-quarters of an hour, subsequent solution, and analysis the presence of a copper salt was shown in even more marked degree." The electrodes employed were pure platinum. If this experiment succeeds in other hands (and the details and manipulation are so obviously simple that many other investigators will be ready to try it), an easy and striking method of demonstrating the degradation of one element to another, or a re-arrangement of electrons, is afforded us. The suggestion of impurity as an explanation of the presence of copper in the gold is irresistible, though perhaps ungenerous. Still, Mr. Cobb has promised to continue the work in order to clear up this portentous point. After all, there is no reason why, if the theory of degradation is true, we should not, with the great electric energies at our disposal, be able to establish the principle, even if it is only on a small scale. It is the small scale, however, which makes difficult the task of eliminating the question of impurities. In any case, the evidence so far points only to transmutation downwards and not upwards having been achieved; and the latter eventuality would be more exciting to fiscal circles.

THE TREATMENT OF NEURALGIA AND FACIAL SPASM BY INJECTIONS OF ALCOHOL.

IN the present issue of THE LANCET we print an interesting article by Dr. Wilfred Harris on the Alcohol Injection Treatment for Neuralgia and Spasm. Dr. Harris has been largely responsible for introducing the valuable procedure which he describes into this country, and his paper will be read with profit. The method of treating trigeminal neuralgia by the injection of a few minims of 75 or 80 per cent. alcohol into the sheath of one or other branches of the nerve has now passed beyond the experimental stage and is meeting with increasing favour. Injection of the seventh nerve for facial spasm has been the natural sequence, and Brissaud, Sicard, and other French physicians have already recorded satisfactory results. The disadvantage of the method lies in the production of facial paresis or paralysis, but this is a transient phenomenon. In very mild cases no doubt the possibility of paralysis does not [illegible] the adoption of the injection method, but for [illegible] cases it is a procedure both easy and effective. Dr. Patrick of Chicag[illegible] *Mental Di*[illegible] treated in t[illegible] months. I[illegible] cure has been the result, the facial paralysis subsequent on the injection having entirely vanished in the course of some months. The third case was unsuccessful; "needless to say (comments the modest physician), the failure was not due to the method but to the operator." The technique is simple, but the details must receive minute attention. Under aseptic precautions an ordina[illegible] is introduced immediately in[illegible] to reach the nerve at its exi[illegible] foramen. By this means 20 minims of 75 per cent. alcohol, containing a little cocaine, are injected into the nerve, and success is indicated by instantaneous cessation of the spasm and development of complete peripheral facial paralysis in the course of a few moments. That precautions are necessary is, of course, obvious, for it cannot be pleasant, as Dr Patrick narrates, to record not merely an utter failure to produce relief, but to hear that some days later the patient has an auditory meatus full of bloody pus. It is true that in the case where this occurred the mischief soon cleared up, but the spasm remained uninfluenced. Dr. Harris in his paper, which is mainly concerned with trigeminal neuralgia (see p. 1310), mentions that he has treated three cases of facial spasm by injecting 80 per cent alcohol around the nerve. This causes slight paresis but immediate cessation of the muscular spasms. If the alcohol is injected into the nerve facial paralysis results, although this disappears in from two to three months. In all operations of this kind Dr. Harris points out the necessity for the strictest asepsis

THE EXHIBITION OF THE ROYAL ACADEMY.

THE 141st exhibition of the Royal Academy of Arts was thrown open to the public on May 3rd, and the public will find, as it is beginning to consider should be the case, that Mr. Sargent has produced the most striking work in the exhibition. But it is not on account of his portraits, admirable as is No. 179, "The Earl of Wemyss," that we say this, but on account of two other pictures, the one (No. 446) a decorative design entitled "Israel and the Law," and the other (No. 496), called "Cashmere," a little procession of women robed in soft greyish drapery. Of portraits of particular medical and scientific interest there is No 89 by Sir Luke Fildes of Sir William Allchin, a good picture; No 246, by Mr. Solomon, of Dr. Ludwig Mond; and No 424, of Dr. Charles Drage, by Miss S. C. Harrison. Other striking portraits are No. 60, of Mrs Greiffenhagen, by Mr Maurice Greiffenhagen; No. 80, by Mr. J. J. Shannon, of the Misses Tennant; No 109, by Mr. Melton Fisher, of the three Misses Lyster; No. 293, by Mr. J H. F. Bacon, of Sir Charles Santley; Nos 404 and 408, of Lady Binning and the Countess of Ronaldshay respectively, by Mr. George Henry; No. 435, by Mr. Charles Sims, of Mrs. Harold Phillips; and No. 678, a portrait, amazingly clever, scarcely beautiful, and blatant in colour, by Mrs. A. L. Swynnerton, of Mrs Fenwick. The portraits this year are a feature of the Academy display. Of other pictures which will attract attention we may mention No. 3, "The Night Piece to Julia," and No. 528, "Ephemera," by Mr. Sims; Mr. Arnesby Brown's No. 19, "The River"; Mr. G. Clausen's No. 25, "The Interior of an Old Barn"; Mr. Chevallier Taylor's "The Anniversary," No. 35; Mr. MacWhirter's four antithetical landscapes—namely, No. 41 [illegible] Harbour at Genoa" at evening and [illegible], and Nos. 102 and 106, "The Riviera" looking towards Italy and France respectively; and Mr. A. [illegible] No. 296, "A Bacchante." Mr. Waterhouse, [illegible]d Mr. Draper, No. 198, have each sent their [illegible] of Lamia. Mr. Waterhouse's "Lamia" is his [illegible] beautiful young woman depicted "fair, on a sloping green of mossy tread" with her serpent skin in her lap, "vermilion spotted, golden, green, and blue." Mr. Draper's "Lamia" is also in the woman state and has the old serpent skin around her all transparent and colourless, but, like poor "Elsie Venner," she shows her serpent character in her narrow forehead and her curious eyes. Further, she apparently has an [illegible] Draper's other picture, No. 206, [illegible] is somewhat of a puzzle. Ulysses is represented tied to the mast and his eyes are gazing at something far away. The ship is invaded by three charming young women, one of them a mermaid, who have their mouths open as if they were singing, but Ulysses is not looking at them Are they the sirens or are they sea nymphs who have come to help him and his crew? Any way, the picture is well worthy of notice Mr. George Harcourt, whose very clever picture, "Supper in Summer-time," was a feature of last year's Academy, has another sound and adroit piece of work this year, No 218, "The Tracing," and Mr. Campbell Taylor sends a notable study in black, white, and grey, No. 322, called "Bedtime" Mr. F. Sydney Steel has a good picture which is unfortunately skied, No. 396, showing "Shetland Ponies in a Storm." We feel sure that Mr. F. O. Salisbury in his skilful picture, No. 323, "The Quest of St. George," should not have dressed his ecclesiastics in the vestments of the Western Church and those, too, of quite a late pattern. In Gallery IX. are two delightful little landscapes, Nos. 484 and 574, by Mr. Albert Goodwin; and in Gallery No. XI. is one of the best pictures of children in the exhibition, entitled "Us," by Mr. Keith Henderson, No. 701.

THE HEAT PRODUCED BY THE HEART'S CONTRACTION.

THE heart by its contraction produces heat as well as the mechanical work necessary for purposes of maintaining the circulation. Professor Sigmund Exner, in a paper read before the Royal and Imperial Society of Physicians in Vienna, and recorded in the *Medizinische Blatter* of April 10th, discussed the means by which the heat so produced is dispersed and the heart prevented from being overheated. He pointed out that whereas in cold-blooded animals the heart is often at a distance from the lungs and in many of them is surrounded by the liver, in warm-blooded animals it is closely invested by the lungs, and in birds by the air sacs He has calculated that in man about 322 Calories of heat are abstracted from the body daily by means of the lungs, 80 being employed in warming the expired air and 242 in saturating it with water vapour. He estimated the heat produced by the heart at about 70 Calories daily, and he suggested that this was in part given off to the surrounding organs, especially the lungs. Some experiments by Yoshimura, in the physiological laboratory at Vienna, by means of thermo-needles, showed that the walls of the ventricles were about half a degree warmer than the lungs and that the farther the spot investigated was from the heart the cooler its temperature was The wall of the left ventricle showed a higher temperature than the blood contained in it, and with the heart exposed the difference might be as much as two degrees. The blood in the left ventricle was found to be lower in temperature than that in the right, which is attributed to the fact that the blood coming to the right side is brought from regions in which active processes of oxidation are in progress. Professor Exner stated that the heart gives off one-fifteenth to one-tenth of the heat produced by it from its surface, and that if this loss be prevented by surrounding the heart with a non-conductor its temperature rises. The right ventricle is not surrounded by the lungs, and owing to its thinner walls and to the comparatively small amount of work it has to do—viz., only about one-seventh or one-eighth of that of the left—the importance ot its cooling is less. Dr. Max Herz criticised Professor Exner's conclusions, and suggested that the blood circulating in the coronary vessels was of much greater importance in abstracting the heat produced by the heart's contraction than the loss from the surface to the lungs. It is obvious that the heat produced by the heart's contraction must be rapidly dissipated, and it is probable that both factors play a part.

RIGHT AND LEFT HANDEDNESS.

Dr. James Taylor has sent us a suggestive note on the subject of right and left handedness, in which he first reminds us that the reason why one man is right-handed and another left-handed, or rather why 98 men out of 100 are right-handed and the remaining two are left-handed, has never been satisfactorily explained. He proceeds to disclaim any intention at present of attempting the missing explanation of this fact, merely wishing to set out clearly the existence of certain conditions which, so far as he is aware, have not been clearly recognised. Pure right-handedness and pure left-handedness we all know, but there are two other varieties of "handedness" in which there seems to be a mixture of the two conditions. The purely right-handed man uses his *right* hand for all purposes for which one hand is used, to throw a stone, to cut bread, to play lawn tennis, or to use a fencing foil. The purely left-handed man uses his *left* hand for all those purposes. (In reference to this, writing must be left out of account, for no boy or girl, no matter how left-handed he or she may be, is ever allowed to learn to write with the left hand.) To put it briefly, the really right-handed man uses his right hand for all single hand actions; the truly left-handed man uses his left hand for all similar single hand actions. When, however, Dr. Taylor continues, as in certain games like cricket and golf, and also in swinging an axe or a two-handed hammer, both hands are used, we sometimes find that the man with true right-handedness for single hand actions—e.g., lawn tennis and bowling—bats left-handedly and plays golf left-handedly. And, conversely, we frequently meet with the man who plays lawn tennis with his left hand and bowls with his left hand and yet bats and plays golf right-handedly. So that four different classes can really be distinguished: (1) those who are right-handed for single-handed actions—e.g., lawn tennis, bowling, fencing, &c.—and also for two-handed actions—e.g., batting at cricket and golf; (2) those who are left-handed for single-handed actions like lawn tennis and bowling, and who also bat and play golf left-handedly; (3) those who for single-handed actions, like bowling and lawn tennis, use the right hand and yet bat and play golf left-handedly; and (4) those who for single-handed actions, like bowling and lawn tennis, use the left hand and yet play golf and bat right-handedly. Dr. Taylor claims that no one at all familiar with the subject will dispute the existence of those four classes, although in the present note he does not inquire how they arise. The explanation of the origin of the third and fourth classes involves a problem of particular interest. He suggests that its solution would be helped by an inquiry directed to discover whether individuals in these two classes of what we may call "mixed-handedness" are as expert in the double-handed games as those in the classes of what we may call "pure-handedness." *A priori* he would scarcely expect them to be, because in these instances the 'naturally dominant hand is reduced to a subordinate position' in the double-handed actions. And he would expect those to excel in the double-handed game in whom the dominant hand is allowed to have its natural position of dominance. The point which is thus raised deserves examination by psychologists and physiologists alike, and we hope that Dr. Taylor may find opportunity to throw light upon the existence of "mixed-handedness" in a further communication.

MILK, GUINEA-PIGS, AND THE LONDON COUNTY COUNCIL.

AT the meeting of the London County Council on May 4th the Public Health Committee reported that 1025 samples of milk had been examined under the General Powers Act of 1907 for the purpose of ascertaining whether tubercle bacilli were present. It had been found that the subcutaneous injection of material from 167 samples into guinea-pigs caused their death from some acute infection, the nature of which was not ascertained. These deaths made it impossible for the Lister Institute which had carried out the investigation to report whether the samples were tuberculous, but it was willing to continue its investigations for at least 12 months at a cost of £330, and the committee recommended that this expenditure should be sanctioned. The recommendation was discussed in connexion with the annual estimates which contained an item in respect of the proposed expenditure. Mr. Whitaker Thompson moved the deletion of the estimate. He doubted very much whether the Council had power to subsidise the Lister Institute in order that that institution might make experiments upon guinea-pigs. He found a seconder in Mr. Felix Cassel, K.C. Mr. Gilbert Johnstone, chairman of the Public Health Committee, said that on grounds of common-sense the experiments must be made. Some acute infection, the nature of which they did not quite know, was present in a considerable percentage of the samples. It might be that there was a worse danger in the milk than tuberculosis. The committee felt that so grave a question must be dealt with as soon as possible. The amendment was lost and the estimate was approved. We are glad that the common-sense of the Council prevailed in this matter, as it is obviously of great public importance that further investigations should be carried out. At the same time, some explanation of the circumstances seems advisable to allay anxiety upon a report which appears very serious on the face of it. We understand that the reason why the early death of the guinea-pigs prevented the detection of tuberculous milk was that at the Lister Institute the result of a diagnostic inoculation is only pronounced negative when the animal has survived three weeks without developing any signs of tuberculosis, and that in these experiments the guinea-pigs died before this period of incubation had passed. The infection to which the guinea-pigs succumbed was of a somewhat complex nature which needs further research before a definite pronouncement can be made upon it, but in the meantime it should be pointed out that the inoculations were made with a highly concentrated centrifugalised deposit and that deductions should not be drawn too hastily from the alarming results of these experiments upon guinea-pigs to the probable effect upon human beings of the consumption of the milk from which the material for inoculation was derived. At the same time it is essential that all possible information should be obtained upon the substance or substances in the milk which killed the guinea-pigs, and the Council could not have acted more wisely than it has in leaving the investigation in the hands of the Lister Institute of Preventive Medicine.

INSPECTION OF FOREIGN MEAT.

SOME years ago the Netherlands Department of Agriculture arranged a special system of inspection of meat intended for export from Holland to Great Britain and other countries. The services of Government veterinary inspectors were made available at the slaughter-houses concerned, a code of regulations was drawn up to guide inspectors as to condemnation, and an official label with an identification number was attached by a lead seal to each carcass which passed the inspector. The system was inquired into by the Local Government Board, and recognition was given to the official label in the regulations made by that Department last year on the subject of foreign meat The Dutch exporter whose animal was condemned by the inspector in Holland could, however, still send it to the British market without the official label, and in the case of pigs, which are mainly in question, many of the carcasses brought into British ports have in the past been uncertified.' It is satisfactory, therefore, that the Netherlands authorities have now taken the further step of extending their meat inspection laws so as to provide that no fresh meat intended for export to the United Kingdom is in future to be shipped unless it has been inspected and officially marked as being in sound condition and free from disease. In the case of pork the term disease is understood to include tuberculosis in any degree. The Local Government Board has now issued a circular to port sanitary authorities (Foreign Meat, No. 4, of April 29th) notifying this change in the system of Dutch "official certification." The circular also deals with other matters relating to inspection of imported meat. Attention is drawn to frozen livers, kidneys, plucks, and other organs which are frequently imported in masses moulded to the shape of the box or bag containing them. The port sanitary authorities in London and elsewhere have recently caused samples of these packages to be thawed out, and have in several cases found their contents objectionable on account of the presence of disease or of decomposition in the centre of the mass. The circular insists on the necessity of the individual organs being separately frozen in the country of origin, and arriving in such a way that on opening the package the organs retain their natural shape and permit of individual examination. Separate freezing of small organs like sheeps' kidneys can be dispensed with only if the kidneys are packed in shallow boxes so that the frozen contents consist of not more than two layers of kidneys not tightly pressed together. In the case of packages containing frozen livers and lungs or "plucks," the circular states that it is specially desirable with a view to detection of disease conditions that the ordinary examination made of a consignment at the port of entry should comprise thawing out specimen boxes, even when the organs have been separately frozen. In THE LANCET of Feb. 13th, p. 475, we laid stress on the need for strictly applying the powers of the Food Regulations Act so as to stop the importation of this highly perishable form of meat in large frozen masses which are incapable of inspection or examination. It is satisfactory to find from this circular that the Local Government Board has decided that all frozen "offal" must in future be imported in such a way that its suitability for food can be ascertained when it arrives at British ports.

TUMOURS IN THE REGION OF THE HYPOPHYSIS CEREBRI.

IN the *Review of Neurology and Psychiatry* for April Dr. Purves Stewart has published a series of four cases of pituitary tumour, in which the diagnosis has been corroborated either at operation or post mortem, and these cases present certain features of interest. One of the chief points to be noted is that the general signs of intracranial pressure are relatively slight. Headache is often absent, vomiting is rare, and optic atrophy of primary nature, rather than optic neuritis, is to be expected. The occurrence of primary optic atrophy is so frequent as to be of considerable value in framing a diagnosis. In no one of the four cases was acromegaly present in any degree, although in two the symptoms of tumour were of several years' duration, a fact which accentuates the truth of the remark that the causal relation between that disease and lesions of the pituitary body is very far from being clearly established. The classical visual signs of chiasma lesion, in the shape of bilateral hemianopia, or of blindness of one eye with temporal hemianopia of the other, were present in three of the cases, and are of the utmost diagnostic importance. In the other case the patient's mental condition was such as to prevent any examination of his visual fields being made. One feature which is brought out very distinctly in all the cases is the remarkable drowsiness of the patient. It is usually intense and often paroxysmal, lasting for hours, days, or weeks at a time. This pathological drowsiness in two of the cases showed curious intermissions; the patient was more or less constantly asleep in one instance, but suddenly had a lucid interval, during which he woke up and made a perfectly sensible will. The explanation of this symptom is still to seek. Evidence adduced to show that normal sleep is associated with a special internal secretion of the pituitary body is far from convincing. Perhaps it is the result of upward pressure on the third ventricle, or of cerebral anæmia produced by compression of the arteries of the circle of Willis. There can be no doubt of the frequency of loss of the menstrual function in women and of the genital function in men in association with disease of the pituitary body. The condition of so-called "pituitary eunuchism" has been noted in a large proportion of pituitary tumours, whether accompanied by acromegaly or not, and in both sexes this diminution of sexual activity is often associated with a tendency to an increase in the development of fat on the body. From the surgical point of view increased attention, more particularly in London and in Vienna, has been given to the question of operative interference in these cases, and successful results have been reported. In the *Johns Hopkins Hospital Bulletin* for April, however, Dr. Redford and Dr. Cushing raise the all-important question whether the pituitary gland is essential to the maintenance of life, and from a series of experiments they confirm the statement of Paulesco that total extirpation of the gland proves fatal. They consider, therefore, that surgical interference must be limited to removal of the tumour where it implicates the gland, or partial hypophysectomy in cases of hypertrophy of that structure.

A TELEGRAM from the Governor of Mauritius to the Secretary of State for the Colonies states that one case of plague with one death was reported during the week ending April 29th, and a telegram from the Governor of Hong-Kong, also received at the Colonial Office, states that seven cases of plague with seven deaths were reported during the week ending May 1st.

IT is proposed to present at the Twelfth International Congress on Alcoholism, to be held in July, 1909, in London, Mackey, M.D. Birm.; Percy Whittington Saunders, B.A., M.B. Toronto, L.R.C.P.; Henry Charles Gustavus Semon, M.A., M.B. Oxon., L.R.C.P.; and Arthur Stanley Woodwark, M.B. Lond., L.R.C.P.

Licences to practise physic were granted to 91 gentlemen who had passed the necessary examinations.

The following communications were received:—1. From the Board of Trade, March 26th, on Beri-beri, in continuation of previous correspondence in 1908. The matter was referred to the Standing Committee on Beri-beri. 2. From Dr. Raymond Crawfurd, asking permission to photograph the portraits of Sir Charles Scarburgh and Sir Edmund King in possession of the College. Permission was granted. 3. From Mr. Leverton Harris, M.P., asking permission to photograph the portraits of Dr. Cadogan and Sir G. Baker in possession of the College. Permission was granted.

The PRESIDENT announced that he had nominated Dr. S. H. Habershon to represent the College at the 350th anniversary of the foundation of the University of Geneva to be held in July next, as Dr. W. Pasteur would be unable to attend.

The PRESIDENT also announced that he had nominated Dr. E. I. Spriggs as one of the delegates of the College on the committee appointed to confer with the delegates of London University as to degrees for London medical students.

Sir William Allchin was elected a representative of the College on the Senate of the University of London.

The by-law for the admission of women to the examinations of the College for qualifications was enacted for the second time.[1]

Dr. W. P. Herringham was elected a representative of the College in the Court of Governors of the University of Sheffield. The thanks of the College were accorded to Dr. F. T. Roberts, the retiring representative.

The quarterly report, dated April 23rd, of the College Finance Committee was received and adopted.

A report from the committee of management dated March 22nd was received and adopted. The report dealt with the following subjects: 1. A revised syllabus of the subjects for both parts of the examination in public health was adopted. The syllabus will come into force at Jan. 1st next. 2. The report of Dr. Norman Moore, the visitor to the examinations of the Egyptian Medical School for the year 1908, was considered satisfactory in every respect. The thanks of the College were accorded to Dr. Moore for his services. 3. (*a*) The committee recommended that the Grammar School, Cheltenham, which has been visited by a member of the committee and reported as fulfilling the requirements of the Board, be added to the list of institutions recognised by the Examining Board in England for instruction in chemistry and physics. (*b*) The committee recommended that the Merchant Taylors' School, which is already recognised for instruction in chemistry and physics, be also recognised for instruction in biology.

The quarterly report of the examiners for the Licence on the results of the January examinations was received and adopted.

Books and other publications presented to the library during the past quarter were received and the thanks of the College were returned to the donors.

The PRESIDENT then dissolved the Comitia.

THE
SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

WE have already in various annotations called attention to many of the arrangements for the approaching International Congress of Medicine at Budapest, and we print below a recapitulation of some of this matter with some added information which should prove useful to members of the profession who intend to be present.

The sittings of the Congress will be held from August 29th until Sept. 4th under the patronage of King and Kaiser Francis Joseph. His Majesty has named as his personal representative H.R.H. Prince Joseph. The national committees comprise the most notable scientists of signatory countries. Over a thousand communications have been sent in up to the present time from every part of the world. The Governments, magistrates, universities, and academies have already appointed their delegates. The business will be transacted in sectional and general sittings, and in the latter the representatives will hear addresses on topics of general interest tending towards the uniting of the nations in scientific work. The Hungarian Government, the legislature, the city of Budapest, and especially its scientific societies, are supporting the endeavours of the organising committee generously.

The Regulations of the Congress.

1. The day of opening is August 29th, and the day of closing is Sept. 4th.

2. The aim of the Congress is purely scientific.

3. Members of the Congress shall be all medical practitioners who have paid the membership fee, and who are accepted as members on the recommendation of their national committees or of the executive committee.

4. The membership fee is 25 crowns (about one guinea).

5. Wives and daughters of members pay half of this fee, which will entitle them to all the advantages offered to members by the railway companies. Such fees are to be sent to the treasurer, Dr. Elischer, Budapest VIII., Eszterházy Utcza 7, accompanied by a card and a note designating which section of the Congress the sender desires to join.

6. Members shall enjoy all the advantages of the Congress and shall receive the general volume of the proceedings of the Congress and also the special proceedings of his selected section.

7. The sectional classes of the Congress will be as follows: (1) Anatomy, Histology, and Embryology; (2) Physiology; (3) General and Experimental Pathology, Pathology (Physiological and Chemical); (4) Microbiology (Bacteriology) and Pathological Anatomy; (5) Therapeutics (Pharmacology, Physical Methods, and Balneology); (6) Internal Medicine; (7) Surgery; (8) Obstetrics and Gynæcology; (9) Ophthalmology; (10) Pediatrics; (11) Neurology; (12) Psychology; (13) Dermatology and Venereal Diseases; (14) Urology; (15) Laryngology, Disease of the Nose; (16) Otology (this section forming also the Eighth International Otological Congress); (17) Stomatology, Dentistry; (18) Hygienics and the Study of Immunity; (19) Forensic Medicine; (20) Military and Naval Sanitation; and (21) Tropical Medicine and Shipping Surgery.

8. The arrangements of the Congress are in the hands of an organising committee and of an executive committee.

9. The Congress will hold two formal sittings, which will form the opening and the closing ceremonies, at which only those appointed by the organising committee and nominated by the State representatives will speak. At the opening ceremony the organising committee will, after the usual addresses, proclaim the list of the honorary presidents of the Congress, and at the closing ceremony it will announce the place of the next Congress, which will be decided by a special committee sitting on the third day of the Congress. This committee will consist of the presidents and secretaries of the national committees and the president and chief secretary of the Sixteenth International Congress. The honorary presidents of the single sections will be elected at the opening sitting.

10. The last day for the notification of papers will be May 15th. Communications notified after this date will be put upon the programme only if time will allow.

11. Members have the right of attending other sections besides those to which they belong.

12. The speeches and addresses delivered at the opening and closing ceremonies will be printed at full length in the proceedings.

13. The time spent in delivering a communication shall not exceed 20 minutes, no speaker shall spend more than 10 minutes in a contribution to the discussion, and the reply of the opener shall not exceed 10 minutes.

14. At all the sittings the English, French, German, and Italian languages may be used by speakers.

The Central Committee of the Congress.

The names of the foreign honorary presidents will be proclaimed at the opening festivity. The following officials have been already appointed:—Honorary President of the Congress: Baron Frederik Korányi; President: Koloman Müller; Chief Secretary: Emil Grosz; and Treasurer: Julius Elischer.

Ladies Committee:—President: Mme. Professor Arpád

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[1] THE LANCET, April 10th, 1909, p. 1069.

Bokay; Vice-Presidents: Mme. Professor Emanuel Herczel and Baroness Alexander Korányi. The members of the ladies committee number about 100. The Executive Committee consists of about 50 members. The National (Hungarian) Committee consists of about 300 members. The Reception Committee consists of 25 members. The Financial Committee consists of 15 members.

The Foreign Committees of the Congress.

The following are the officials of the various National Committees:—

England.—President: Dr. F. W. Pavy, London; Secretaries: Dr. Clive Riviere and Mr. D'Arcy Power, London.

Germany.—President: Geh. Med. Rat. Professor W. Waldeyer, Berlin.

United States of America.—President: Dr. John H. Musser, Philadelphia.

Austria.—President: Hofrat Professor A. von Eiselsberg, Vienna.

France.—President: M. le Professor Landouzy, Doyen de la Faculté de Médecine, Paris.

Spain.—President: M. le Professor Tallian Calleja y Sánchez, Madrid.

Egypt.—President: M. Armand Ruffer, President of the Egyptian Sanitary Quarantine Council, Alexandria.

Canada.—President: Professor Alexander MacPhedran, Toronto.

Italy.—President: M. le Professor Guido Baccelli, Rome.

Japan.—President: Professor S. Kitasato, Director of the Institute for the Research of Infectious Diseases, Tokio.

The Plenary Sittings of the Congress.

There will be six plenary sittings dealing with the following subjects. Dr. G. Baccelli (Rome): On Heroic Medicine. Dr. E. F. Bashford (London): On Cancer. Dr. M. Gruber (Munich): Vererbung, Auslese und Hygiene (Inheritance, Selection, and Hygiene). Dr. R. Kuttner (Berlin): Über das ärztliche Fortbildungswesen (On the Post-graduate Instruction of Medical Men); this address will be held under the auspices of the central committee of Prussian Post-graduate Instruction. Dr. A. Laveran (Paris): La Pathologie Exotique (Tropical Medicine). Dr. T. Loeb (Berkeley): Artificial Parthogenesis and its Bearing upon the *Physiology and the Pathology of the Cell.* The place and date of these sittings will be published in the journal of the Congress. At these sittings ladies will be admitted to the general meetings of the Congress.

General Arrangements.

For the benefit of the Congress the organising committee has made arrangements with the General Post Office of Budapest to send the letters of foreign members to the office of the Congress if nc [illegible] The telegraphic address will be [illegible] In our last two issues we have [illegible] of the arrangements made for lodgings and excursions for members of the Congress.[1]

MEDICINE AND THE LAW.

Action Against a Dairy Company for Selling Milk Containing Boric Acid in Breach of a Warranty.

AT the Croydon county court judgment was given recently by his honour Judge Harington in an action heard by him in February, in which the plaintiffs, Mr. Harold Bentley and [illegible] him as her next friend, claimed [illegible] Wraight, Dumbrill, and Co., [illegible] Mr. Bentley for the use of his [illegible] into a verbal contract with the [illegible] rough their agent at Mitcham, a [illegible] he supply of nursery milk free [illegible] dulteration for the consumption of his child born in December, 1907. He had already ceased to deal with another dairy owing to the presence of boric acid in the milk supplied, and his express stipulation and the dairyman Hughes's promise that there should be none were not disputed. While the child was being fed with the defendants' milk she suffered severely from diarrhœa, loss of appetite, and loss of weight, and her father eventually consulted Dr. David Forsyth, who recommended him to have the milk analysed. It then appeared that the milk contained boric acid in the proportion of five grains to the pint, and when this was discontinued the child improved in health, after which the action was brought. Medical evidence was given on behalf of the plaintiffs by Mr. Bentley himself, Dr. Forsyth, Mr. E. Hinks, analyst to the Surrey county council, and others. On behalf of the defendants Mr. Felix C. Kempster gave medical evidence, and Mr. Hughes and other witnesses connected with the dairy denied absolutely the use of boric acid in the business or in connexion with the milk complained of. In giving judgment his honour stated that there were two questions for his decision: 1. Did the defendants or their agents adulterate with boric acid the milk supplied to Mr. Bentley? 2. If so, was the child's illness due to such adulteration? Dealing with the second question first, and saying that the answer must depend entirely on the conclusion to be drawn from the medical evidence, having regard to the history of the illness, he found that there was boric acid in the milk during the period following June 6th and that the child's illness was due to it. After reviewing the evidence as to the other question, he came to the conclusion that the preservative found its way into the defendants' milk before it left their premises and that they were responsible under their warranty. He assessed the damages at £11 1*s.* 6*d.*, representing the actual cost to the father, with £5 5*s.* for the child in respect of suffering undergone, and gave judgment for that amount with costs on Scale B. Mr. Bentley is to be congratulated on the result of his action and upon having discovered in time the cause of his child's illness. The case shows the danger arising from the use of boric acid, and the value of analysis as a safeguard even when assurance of the purity of the milk has been given.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 7th, 1831.

POISONOUS TABLE SALT.

The Council of Health of Nantz have found, after a most rigorous and extensive examination, that the *table-salt* of that city was free from the admixture of arsenic and the combinations of iodine which MM. Latour de Trie and Chevallier have detected in Paris. The Academie de Medecine have recommended the Government to order similar inquiries to be prosecuted in every department of France.

COMPOSITION OF OXALIC ACID.

M. Gay Lussac has succeeded in decomposing this acid by a moderate temperature, and he states it to be composed of six parts of carbonic acid, five of carbonic oxide, and one of the formic acid.—*Lancette Franç.*

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8423 births and 4569 deaths were registered during the week ending May 1st. The annual rate of mortality in these towns, which had been 17·1 and 15·8 per 1000 in the two preceding weeks, further declined to 14·5 in the week under notice. During the first four weeks of the current quarter the death-rate averaged 16·1 per 1000, while in London during the same period the mean rate was 15·6. The lowest recorded annual death-rates in these towns last week were 7·6 in Leyton and in Walthamstow, 7·7 in Burton-on-Trent, 7·8 in York, and 8·2 in Hornsey and in Handsworth (Staffs); the rates in the other towns ranged upwards to 20·2 in Preston, 20·6 in Sunderland, 22·3 in Middlesbrough, and 24·0 in Bootle. The 4569 deaths from all causes in the 76 towns last week showed a decrease of 414 from the number in the previous week, and included 462 which were referred to the principal epidemic diseases, against 593, 584, and 518 in the three preceding weeks; of these 462 deaths,

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[1] THE LANCET, April 24th, p. 1192, and May 1st, p. 1264.

225 resulted from measles, 113 from whooping-cough, 39 from diarrhœa, 37 from diphtheria, 34 from scarlet fever, 13 from "fever" (principally enteric), and one from small-pox. The 462 deaths from these epidemic diseases in the week under notice were equal to an annual rate of 1·5 per 1000, the corresponding rates for the two preceding weeks being 1·9 and 1·6 per 1000. No death from any of these epidemic diseases was registered last week in Brighton, Tottenham, Norwich, Northampton, Huddersfield, or in 12 other smaller towns; the annual death-rates therefrom ranged upwards, however, to 3·7 in Wallasey, 3·8 in Bootle, 4·0 in Wigan, and 4·4 in Preston. The deaths from measles, which had declined from 438 to 265 in the six preceding weeks, further fell last week to 225, but caused death-rates ranging upwards to 1·7 in Salford, 1·9 in Tynemouth, 2·3 in Bootle, 2·9 in Wigan, and 3·3 in West Hartlepool. The fatal cases of whooping-cough, which had been 130 and 131 in the two preceding weeks, declined to 113 in the week under notice, the highest death-rates from this disease being 1·4 in East Ham, 1·5 in Smethwick, 2·0 in Stockport, and 3·5 in Preston. The 39 deaths from diarrhœa slightly exceeded the number in the previous week. The fatal cases of diphtheria, which had been 53, 47, and 48 in the three preceding weeks, declined to 37 last week, and included nine in London and its suburban districts, three in Portsmouth, three in Burnley, and two each in Manchester, Halifax, and Wallasey. The deaths from scarlet fever, which had been 47, 31, and 28 in the three preceding weeks, rose again to 34, and included 12 in London and its suburban districts, and six in Liverpool. The 13 deaths referred to "fever" corresponded with the number in the preceding week, the highest death-rate being 1·5 in Wallasey. One fatal case of small-pox was registered in Cardiff, but none in any other of the 76 towns. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had decreased from 2873 to 2219 at the end of the eight preceding weeks, had further declined to 2181 on Saturday, May 1st; 305 new cases were admitted during the week, against 256, 244, and 265 in the three preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 341 and 294 in the two preceding weeks, further declined to 232 in the week under notice, and were 73 fewer than the corrected average number in the corresponding week of the five years 1904–08. The deaths in London directly attributed to influenza numbered 32 last week, and were nine in excess of the corrected average number. The causes of 38, or 0·8 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, and in 47 other smaller towns; the 38 uncertified deaths included six in Birmingham, six in Liverpool, and three in Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·4 and 17·4 per 1000 in the two preceding weeks, further declined to 16·9 during the week ending May 1st. During the first four weeks of the current quarter the annual death-rate in these towns averaged 17·6 per 1000, and exceeded by 1·5 per 1000 the rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rates in the week under notice ranged from 13·0 in Greenock and 14·8 in Dundee and in Paisley to 17·2 in Edinburgh and 18·1 in Glasgow. The 605 deaths from all causes registered in the eight towns last week showed a decline of 15 from the number in the preceding week, and included 93 which were referred to the principal epidemic diseases, against 98 and 86 in the two preceding weeks; of these 93 deaths, 55 resulted from whooping-cough, 21 from diarrhœa, five from scarlet fever, five from diphtheria, five from "fever," and two from measles, but not any from small-pox. The annual death-rate from these diseases was equal to 2·6 per 1000 last week, or 1·1 per 1000 more than the death-rate during the same period from the principal epidemic diseases in the 76 English towns. The fatal cases of whooping-cough, which had been 58 and 46 in the two preceding weeks, rose again to 55 in the week under notice and included 34 in Glasgow, 11 in Edinburgh, and three each in Dundee, in Aberdeen, and in Paisley. The deaths from diarrhœa, which had been 18 in each of the two preceding weeks, rose last week to 24, of which eight occurred in Glasgow, five in Edinburgh, three in Aberdeen, two in Dundee, and two in Leith. The five deaths referred to "fever" included three from enteric fever and two from cerebro-spinal meningitis; all these deaths were registered in Glasgow, where three of the five fatal cases of scarlet fever and four of the five deaths from diphtheria also occurred. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 135 and 118 in the two preceding weeks, further declined to 99 in the week under notice, and were eight fewer than the number in the corresponding week of last year. The causes of 23, or 3·8 per cent., of the deaths registered in the eight towns last week were not certified; in the 76 English towns the proportion of uncertified deaths during the same week did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been 27·7 and 24·5 per 1000 in the two preceding weeks, further declined to 22·0 in the week ending May 1st. During the first four weeks of the current quarter the death-rate has averaged 24·9 per 1000, whereas the mean rate during the same period did not exceed 15·6 in London and 17·6 in Edinburgh. The 168 deaths of Dublin residents from all causes during the week under notice were 19 fewer than the number in the previous week, and included 16 which were referred to the principal epidemic diseases, against 21 and 12 in the two preceding weeks. These 16 deaths were equal to an annual rate of 2·1 per 1000, the rate from the epidemic diseases during the same week being 1·7 in London and 2·6 in Edinburgh. Of the 16 deaths from these epidemic diseases in Dublin last week, 13 resulted from whooping-cough, two from measles, and one from scarlet fever, but not any from small-pox, diphtheria, "fever," or diarrhœa. The fatal cases of whooping-cough, which had been seven, 11, and six in the three preceding weeks, rose again last week to 13, and exceeded the number in any previous week of the year. The 168 deaths registered during the week under notice included 31 of infants under one year of age and 53 of persons aged upwards of 60 years, the corresponding numbers in the preceding week being 28 and 59 respectively. Eight inquest cases and four deaths from violence were registered, and 61, or 36·3 per cent., of the deaths occurred in public institutions. The causes of four, or 2·4 per cent., of the deaths in Dublin last week were not certified; in London all the 1300 deaths were duly certified, while in Edinburgh the proportion of uncertified deaths was 3·4 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Staff-Surgeon Norman Ireland-Smith has been placed on the retired list (dated March 23rd, 1909).

The following appointments are notified:—Fleet-Surgeon: W. E. Marshall to the *Achilles*, on recommissioning. Staff-Surgeon: J. D. S. Milln to the *Vindictive*, on recommissioning. Surgeon: W. G. M. Anderson to the *Scylla*, on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Captain J. M. M. Crawford has been transferred to the Eastern Command from Lahore.

SPECIAL RESERVE

Royal Army Medical Corps.

The undermentioned Lieutenants are confirmed in that rank:—James N. McLaughlin, Robert T. C. Robertson, and Joseph G. McCutcheon.

TERRITORIAL FORCE.

Royal Field Artillery.

3rd West Riding Brigade: Surgeon-Captain Archibald

[illegible]

Royal Army Medical Corps.

1st London (City of London) Field Ambulance: Lieutenant Robert Ollerenshaw resigns his commission (dated March 4th, 1909).

6th London Field Ambulance; Walter Brock Parsons to be Lieutenant (dated March 16th, 1909).

3rd Northumbrian Field Ambulance: Abram Cockcroft Barker to be Lieutenant (dated March 17th, 1909). Mervyn Alexander Archdale to be Lieutenant (dated March 24th, 1909).

3rd West Riding Field Ambulance: Lieutenant Herbert G. M. Henry resigns his commission (dated March 31st, 1909).

2nd Wessex Field Ambulance: Lieutenant Fielding O. Whitmore to be Captain (dated March 3rd, 1909).

2nd London (City of London) General Hospital: Captain (Honorary Captain in the Army) Ernest J. G. Berkley to be Major (dated April 5th, 1909).

North Midland Mounted Brigade Field Ambulance: Arthur Charles Goodwin to be Lieutenant (dated Feb. 22nd, 1909).

3rd Northern General Hospital: Surgeon-Captain Arthur Mayers Connell, from the 4th West Riding of Yorkshire Royal Garrison Artillery (Volunteers), to be Major (dated April 1st, 1908). John Sinclair White to be Lieutenant-Colonel (dated March 5th, 1909).

For attachment to Units other than Medical Units.—Surgeon-Major Charles Lachlan Fraser, from the Unattached List, to be Major (dated Feb. 21st, 1909). Clarence Isidore Ellis to be Lieutenant (dated March 30th, 1909). Gerald Stephen Hughes to be Lieutenant (dated Dec. 2nd, 1908). Francis Ley Augustus Greaves to be Lieutenant (dated Feb. 17th, 1909).

DEATHS IN THE SERVICES.

Colonel Herbert Murray Ramsay, R.A.M.C. (T.F.) (late [illegible] on April 29th at Cotswold [illegible] took an active interest in [illegible] recently appointed to the command of the 1st London General Territorial Hospital.

CITY OF LONDON NURSING SERVICE.

At a meeting of the executive committee of the Territorial Nursing Service of the City and County of London, held at the Mansion House on April 30th, Colonel Clement Godson, Colonel Adams, and Colonel Thorne were added to the executive committee.

LECTURES ON ARMY SANITATION.

The following course of lectures on army sanitation have been arranged and will be delivered at the Royal Institute of Public Health, 37, Russell-square, London, W.C., as follows: May 12th, The Officer and his Duties towards the Well-being of the Soldier under his Command, by Surgeon-General G. J. H. Evatt, C.B., Honorary Colonel, Home Counties Division, Field Ambulances, Territorial Force; May 19th, Practical Sanitation of Camps, by Lieutenant-Colonel R. H. Firth, R.A.M.C., instructor, School of Army Sanitation, Aldershot; May 26th, The Essential Principles of Sanitation in the Field, by Lieutenant-Colonel C. H. Melville, R.A.M.C., professor of hygiene, Royal Army Medical College; June 2nd, Hospital Work in War, by Lieutenant-Colonel R. J. S. Simpson, R.A.M.C., C.M.G., professor of tropical medicine, Royal Army Medical College; June 9th, The Bacteriology of Diseases Common to Armies in the Field, by Dr. R. Tanner Hewlett, professor of general pathology and bacteriology in King's College, London; June 16th, Inoculation Methods for the Prevention of the Diseases to which the Soldier is Liable, by Lieutenant-Colonel S. Monckton Copeman, divisional sanitary officer, 1st London Division, Territorial Force. The lecture hour will be 6 P.M.

MIDDLESEX HOSPITAL.—The annual Middlesex Hospital Founders' Day Commemoration Service will be held in the Hospital Chapel on Wednesday, May 19th, at 3.30 P.M., when a sermon will be preached by the Rev. Herbert E. Gunson, M.A., the chaplain. After the service visitors will have the opportunity of inspecting the wards of the hospital and will be entertained at tea by the invitation of Lord Cheylesmore and members of the weekly board of governors, in whose name the cards of invitation are issued.

Correspondence.

"Audi alteram partem."

THE MEDICAL TREATMENT OF LONDON SCHOOL CHILDREN: THE LONDON COUNTY COUNCIL AND THE CLAIMS OF THE MEDICAL PROFESSION.

To the Editor of THE LANCET.

SIR,—The action of the London County Council demands instant attention and decisive action, if the profession in London is not to be exploited still more, and in a way peculiarly detrimental to its general interests. The Council at its last meeting passed an amendment moved by Mr. Hayes Fisher,[1] referring back a report on the treatment of *school children, with instructions to prepare an estimate of* the cost of treating each of several diseases. The matter is thus left as follows: The Council has decided to treat the children by utilising existing institutions, and by making grants in return from the public funds. The latter, by the way, is in direct opposition to the almost unanimous opinion of the British Medical Association. Following on the passage of this amendment, the authorities, permanent and other of the Education Committee, have approached the chairmen and secretaries of the London hospitals with proposals; and an informal meeting has been held at which a definite proposition was made offering the hospitals *4s. 6d.* per head for treatment. The response to this offer has, I understand, been of a varied nature, some agreeing to a definite remuneration per head, and others saying that if the Council subscribes special facilities shall be given.

In no case does it appear that anything has been said to the staff or that they have been considered in the slightest degree. As far as I can ascertain, they are in more or less complete ignorance of the matter. It seems to be taken for granted that the medical staffs will carry out any scheme that may be proposed by the committees and adopted by the boards of management. In fact, it was bluntly stated the other day, "the staffs are the servants of the boards of management, and if the boards say they must treat the children they must do so." Personally, I think it unlikely that the staffs will submit so easily. In other words, many thousands, probably hundreds of thousands, of children are to be treated as far as the medical profession is concerned for nothing.

There is no doubt that these children need treatment, but if they cannot afford to pay their own private practitioners they should either be treated by the Poor-law or by means of special clinics officered by the medical staff of the Education Committee, who, no doubt, are able and willing to carry out the work in return for adequate remuneration. Can there be a more flagrant example of exploitation than this proposal to utilise the services of the profession without payment to keep down the rates?

I am, Sir, yours faithfully,

London, W., May 1st, 1909. H. BECKETT-OVERY.

⁂ In another column we discuss the situation in the light of a statement circulated among members of the London County Council.—ED. L.

THE PROXIMATE FACTOR OF DELIRIUM TREMENS.

To the Editor of THE LANCET.

SIR,—Referring to Mr. F. S. D. Hogg's letter under this head in THE LANCET of May 1st, p. 1276, I submit that the figures which he extracts from the case-books of Dalrymple Home Retreat are not comparable with those published in the report of the Norwood Sanatorium. Mr. Hogg's figures refer to delirium tremens occurring in the previous life histories of patients, mine to delirium tremens occurring only on or after admission. Moreover, Mr. Hogg's argument assumes that the type of inebriety—whether continuous or intermittent—remains constant through life. If this is the rule there are numerous exceptions. Nothing is commoner than for a continuous drinker to become in the course of time more or less periodic; and conversely. Many of the Norwood Sanatorium patients, periodic drinkers on admission, had suffered from delirium tremens in the past. At the time, however, they had all without exception been continuous drinkers. I have yet to find one instance in which a single short outburst of drunkenness following on a period of total abstinence resulted in delirium tremens.

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[1] THE LANCET, April 10th, 1909, p 10[illegible].

Both Mr. Hogg and myself now admit that delirium tremens may result from sudden withdrawal of alcohol. But Mr. Hogg finds—contrary to my experience—that the onset of the complication can be prevented by the substitution of other narcotics. In these circumstances exact details of the nature, dosage, and times of administration of the substitutive narcotics would be of great interest and utility.

I am, Sir, yours faithfully,
May 2nd, 1909. FRANCIS HARE.

THE DEATHS REGISTRATION AND BURIALS BILL, 1909.

To the Editor of THE LANCET.

SIR,—It is earnestly to be hoped that this long required measure will be allowed to pass the present session of Parliament and that the medical profession will do all it can to secure that end. I have carefully perused the Bill, which I think is excellent, although there are two or three points on which it appears to me to be hardly complete or definite enough, viz.:—

1. In Section 3, in return for the fee to be paid to the medical practitioner, which I heartily approve, he should be required to give a complete and accurate certification of the cause of death, whether that cause be acute or chronic alcoholism, venereal disease, or whatever it may be. At present the certification and statistics of such causes of death as the last mentioned are most incomplete, because medical practitioners do not like to divulge such confidential secrets to the relatives of the deceased; hence the great desirability also of another amendment, viz.:—

2. In Section 11 it should be compulsory that the medical practitioner's certificate of the cause of death should be sent under sealed cover direct to the sub-registrar. There should also be one compulsory form of medical certificate for the purposes of registration, and one only.

3. Burials should take place only in public cemeteries or churchyards; otherwise there is nothing to prevent still-births being secretly buried in private gardens.

I am, Sir, yours faithfully,
EDMUND M. SMITH, M.D. Edin., D.P.H.,
Guildhall, York, May 4th, 1909. Medical Officer of Health.

PERFORATIVE APPENDICITIS IN AN INFANT.

To the Editor of THE LANCET.

SIR,—In THE LANCET of April 17th, p. 1110, Dr. T. Wilson Parry recorded an interesting case of perforative appendicitis in an infant, aged 16 months. As the condition seems to be extremely rare in infants I think it may be worth mentioning that during the last month Mr. Joseph Cunning operated with complete success on a child just 11 months of age who was admitted to this hospital suffering from a similar condition.

I am, Sir, yours faithfully,
A. C. D. FIRTH,
Resident Medical Officer, Victoria Hospital for Children.
May 3rd, 1909.

THE COST OF A MOTOR-CAR.

To the Editor of THE LANCET.

SIR,—The following particulars of the cost of running a motor-car may be of use to many readers who are interested in the subject either as owners or prospective purchasers of cars.

My car, which I drive myself, is a 12-h.p. "Star," late 1907 pattern, with dual ignition, each totally independent of the other, four speeds forward, with direct drive on the third, and White and Poppe carburettor. I can endorse all the remarks made by your contributor, Mr. Hirsch, about the "Star" cars in "Motoring Notes" in your issue of Feb. 20th last. I have had absolutely no trouble with the car and have run 6800 miles during the last 15 months. The first year's cost of upkeep has been as follows:—

	£	*s.*	*d.*
Petrol	18	19	8
Tyres	9	17	1
Minor repairs	3	3	3
Oil, grease, and sundries (including spare plugs, &c.)	2	12	7
Insurance and licence...	14	5	0
	£48	17	7

The mileage for the 12 months was 6045 miles.

The above speaks for itself and is very satisfactory in every way.

I am, Sir, yours faithfully,
Liverpool, April 27th, 1909. J. SAFFLEY, M.B. Edin.

MEDICAL PRACTICE IN PERU.

To the Editor of THE LANCET.

SIR,—In an editorial article in THE LANCET of Jan. 23rd you say, "In Peru also unqualified practice does not appear to be penalised." Quite correct in one way, but it is strictly prohibited, the delegates of the Medical Faculty having power to call in the action of the civil powers to exact fines, and even, I believe, to put in prison in case of contumely.

During about 50 years I have never seen the law really put in practice in a serious manner, consequently unqualified practice and mendacious "medical" advertisements abound.

I am, Sir, yours faithfully,
J. DICKSON HUNTER, M.D. Edin., &c.
Arequipa, Peru, April 2nd, 1909.

FAVUS AND RINGWORM AMONG SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—In the report on the medical treatment of school children presented at the last meeting of the London County Council the Council's Education Committee recommend the x ray treatment for ringworm, and further that the "present special treatment" of cases of favus should be continued. It is stated that the loss in grants through ringworm amounts to over £5000 per annum, in view of which fact it is obvious that special steps are necessary with a view to the reduction of the excessive prevalence of the disease. At the same time it is pointed out that the x ray treatment costs from 5*s.* to 7*s.* per head, and each installation of the apparatus about £100. The treatment given in the favus school is regarded as satisfactory, and this being so it would be interesting to know why that or some similar treatment cannot be given in cases of ringworm.

Perhaps one of your readers could enlighten me through the medium of your columns as to the nature of the treatment at the favus school, and how it compares as regards cost with the proposed x ray treatment.

I am, Sir, yours faithfully,
May 6th, 1909. M.D.

THE IRISH UNIVERSITIES COMMISSIONS.

To the Editor of THE LANCET.

SIR,—In your issue of April 24th, 1909, on p. 1214, under the above heading, it is stated: "The two commissions ...... are working hard, so that if possible both new universities may be able to begin work next October, when, if they are both ready, the Royal University will be dissolved." As a graduate in medicine of the late Queen's and now Royal University I am anxious to emerge from the state of Egyptian darkness in which I am at present as to the effect of the dissolution of the Royal University on the graduates of that body; in what form will they survive this second death? and where may they expect to find authentic (official) information on the subject?

I am, Sir, yours faithfully,
May 1st, 1909. MORIBUND.

⁂ We have the fullest sympathy with our correspondent. We believe when the Royal University *is dissolved* he may enrol himself either as a graduate of the National University of Dublin or of the Queen's University of Belfast, or he may decide to take neither course, but to describe himself officially as M.D. (late R.U.I.). He can obtain official information on the matter by communicating with the Right Hon. Lord Chief Baron Palles, chairman of the National University Commission, Mount Anville House, Dundrum, county Dublin, or with His Honour Judge Shaw, K.C., chairman of the Belfast University Commission, 69, Pembroke-road, Dublin. Each of these gentlemen, with a few others from both commissions, will sit together in Dublin on May 14th to decide questions that affect the two universities, of which the subject raised in the above letter is, we should presume, likely to be one.—ED. L.

THE GERMAN SURGICAL CONGRESS.[1]

(FROM OUR BERLIN CORRESPONDENT.)

THE Congress [illegible] eld at Berlin from [illegible] of Hamburg being in the chair.

Anæsthetics.

Professor NEUBER of Kiel made a report on a collective investigation concerning Anæsthesia during 1908. In all 71,052 cases were registered, in 24 of which, or about 1 in 3000, death occurred. The mortality in anæsthesia by chloroform exceeded that caused by ether; the latter, however, more frequently produced post-operative pneumonia. Chloroform, which in Germany was formerly used in 75 per cent. of the cases, was now used only in 25 per cent. The combination of oxygen with chloroform, administered by the Roth-Draeger apparatus, had not been so successful as, it appeared, the author had hoped. The least harmful method was the combination of scopolamin and morphine combined with the ether drop method. Anæsthesia should be produced rather slowly and should not be so intense as to cause total disappearance of the reflexes, but only be so deep that no pain is felt and that no movements are made. Irritation is thus avoided before and during the operation; moreover, the danger of pneumonia is considerably decreased.

[illegible] fessor Schleich was the [illegible] of novocaine with adrenalin [illegible] could be given to produce [illegible] removal of even the thyroid gland or the larynx. He then described his method of intravenous injections in the limbs which was lately reported in these columns. Concerning spinal analgesia by injection into the spinal canal, he said that failures were rather rare with a careful technique, but that undesirable sequels might occur. After the injection of tropacocaine and adrenalin headache occurred in 6 per cent. of the cases and vomiting in 5 per cent. The metho[illegible] lower [illegible] amin [illegible] in cas[illegible] suffer[illegible] ever, [illegible] an experiment.

Professor REHN of Frankfort had made experiments in animals concerning the influence of lumbar injection on the spine and the brain. To study the physiological current of the arachnoidal fluid 2 cubic centimetres of a sugar solution with methylene blue were injected into the lumbar [illegible] t being that [illegible] 25 minutes [illegible] fore obvious [illegible] the physio- [illegible] novocaine, [illegible] three hours within the [illegible] pounds appea[illegible] that stovaine [illegible] the motor ganglia of the brain chromolytic alterations and degeneration were found 72 hours after the injection. After ten days a degeneration of the cord, especially of the posterior column, was found. The direct injection of the compound into the spinal marrow produced at once a total destruction, whilst injection of a saline solution was harmless.

Professor KADER of Cracow reported 1907 cases of spinal [illegible] e method [illegible] region of [illegible] must be [illegible] cerebro-spinal fluid allowed to escape must be twice that of the solution injected. He injected whilst the patient was in a stooping position, but he was placed in Trendelenburg's posi[illegible] e injection; the quantity injected [illegible] cocaine in operations on the pelvis [illegible] 0·12 gramme in operations above that region, and 0·14 to 0·16 gramme in operations on the neck. As a rule the patients showed no undesirable symptoms, but in four cases death occurred on the operating table. The operations sometimes lasted for hours. In elderly people greater doses must be avoided. In 81 cases general narcosis became necessary. Twice syncope was observed, in five cases severe headache occurred, and in three cases paresis of the ocular muscles followed, which, however, disappeared later.

[illegible] hat the arabates of [illegible] up the spinal canal, [illegible] hlorates; in animals a total analgesia of the body, including the cornea, was obtained without paralysis of the respiration.

Dr. HOHEMANN of Rostock spoke on the treatment of the after-effects of spinal analgesia. The most frequent complication was severe headache, which sometimes was present for many weeks and seemed to defy therapeutic treatment. He made exact estimate of the pressure of the cerebro-spinal fluid in the horizontal position after the method devised by Professor Quincke. When the pressure was too high a certain quantity of the fluid was drawn off; when it was too low a certain quantity of a saline solution was injected, the results being very good.

Staff-Surgeon Dr. KÖHLER of Berlin discussed the possibility of local analgesia in a war. He said that, owing to the uncertain effect of the method and the difficulty of securing asepsis in war, general anæsthesia by inhalation was preferable for operation on the battlefield and in the field hospitals.

Operations on the Ureter.

Professor GARRÉ of Bonn said that the most frequent reason for operation on the ureter was incarcerated calculus which was generally situated either at the upper end of the ureter or near its entrance to the bladder. When the ureter was totally blocked no time should be lost but an operation should be at once performed. An incision was made from the twelfth intercostal space to the anterior superior spine. Through this incision the surgeon must get at the calculus by the retroperitoneal way. The calculus might be felt when the ureter was reached. An incision was then made in the ureter and the calculus gently removed. By introducing a probe it could be ascertained whether other calculi or strictures were present. The incision was then closed by suture. It was unadvisable to insert the ureter in the surrounding tissue because kinks and strictures were liable to occur. Drainage of the ureter was contraindicated. In cases of incarceration of calculi near the entrance of the ureter into the bladder the "sectio alta" should be made. The diagnosis of calculi might be made by radiography or by cystoscopy. A second indication for operation on the ureter was the presence of injuries, especially in gynæcological operations; the diagnosis was as a rule uncertain, but when an injury was certain an immediate operation was advisable. The ureter was made accessible in the retroperitoneal way and the wound was closed by fine silk sutures. When the ureter was completely divided an oblique union of the ends was preferable to a circular suture. A lateral anastomosis might hinder the urine from passing freely and it was thus preferable to make an invagination of the renal into the vesical end. The suture of the ureter was impossible within the true pelvis, implantation being the standard method in such cases. Implantation is further indicated in prolapse, in growths of the bladder, and in ectopia. When an implantation could not be done the following procedures might be considered: (1) removal of the kidney; (2) anastomosis of both ureters; (3) nephrostomy; (4) implantation into the sigmoid; and (5) implantation of an organic tube instead of the ureter. The third indication for operation on the ureter was stricture with consecutive hydronephrosis. In such cases either resection with oblique sutures or invagination must be performed.

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[1] Our correspondent received valuable assistance in the preparation of this report from the editor of the *Deutsche Medicinische Wochenschrift*, whose courtesy we wish to acknowledge.

Dr. **VOLKER** of Heidelberg read a paper on the Diagnosis of Dilatation of the Renal Pelvis. He proposed to fill the pelvis with a solution of collargol through the ureter and to use radiography. The ureteral catheter must be impregnated with bismuth, so that it gave a shadow on the radiographic plate.

Peritonitis.

Dr. **NOTZEL** of Völklingen read a paper on Operations for Diffuse Peritonitis. He said that the prognosis did not depend on the species of bacteria present. As a rule the bacterium coli was found in peritonitis; streptococci if present did not mean a worse prognosis. It was important for a successful result to remember that the peritoneum, like all the large serous membranes, was able to destroy great masses of cocci. The object of the treatment was to remove the cause of the peritonitis, to get rid of the pus, and to provide for thorough drainage. Therefore every case of diffuse suppurative peritonitis was to be operated on, large incisions being necessary. For removal of the pus Dr. Notzel recommended irrigation, which, moreover, had a tonic action on the heart and the intestine. The Trendelenburg position must be avoided, the pelvis, on the contrary, being lowered. Drainage should be carried out by tubes and the wound closed by sutures to restore the abdominal pressure; the drainage tubes might be changed on the second day and replaced by smaller ones. In cases of paresis of the intestines enterostomy had not given good results; eventually puncture of the intestines by small trocars might be performed.

Dr. **NORDMANN** of Berlin said that the better results now obtained were partly due to the early date at which operations for appendicitis were undertaken. An exact diagnosis was rather difficult. Of 75 cases which occurred during the last year, six were not operated upon and died; of 69 cases operated upon, 23 died. Rigidity of the abdominal wall was not an absolutely sure symptom of peritonitis, for it was found also in enteric fever, meningitis, and Addison's disease. Fæcal fistulæ were less frequent since plugging had been abandoned. Dr. Nordmann argued against the use of sutures, because the fascia might become necrotic and suppuration of the abdominal wall might occur. Multiple incisions were no longer performed. The mortality in cases of paresis of the intestines was 75 per cent. Enterostomy and injection of physostigmine were useless.

Dr. **SPRENGEL** of Brunswick said that he avoided irrigation, the dry method giving better results. He also entered a protest against infusions of saline solution as useless; large doses, according to him, prejudiced the cardiac action. Enterostomy had been abandoned by him.

Dr. **BORCHARD** of Posen said that in cases of diffuse peritonitis after appendicitis he gave, after the removal of the appendix, injections of from 50 to 100 grammes of olive-oil. The results were good.

Dr. **HEILE** of Wiesbaden said that after the incision of the peritoneum he made a puncture of the intestine and injected about 50 or 100 grammes of castor oil to produce peristaltic movements. The small opening was then closed by a suture.

Dr. **ROTTER** of Berlin said that he preferred to close the abdominal wound by sutures in appendicitis with peritonitis. He had only twice observed an abscess in Douglas's pouch after this method. But in general diffuse peritonitis he warned his hearers against sutures.

Dr. **KOTZENBERG** of Hamburg recommended irrigation and injection of a vioform (iodochloroxy-quinoline) emulsion. To produce peristaltic movements he administered strychnine in large doses. He took the opsonic index, which, according to him, was valuable for the diagnosis, but without value in prognosis.

Cancer.

Professor **VON CZERNY** of Heidelberg said that an operation was still the best remedy for cancer, but that in inoperable cancer other methods must be tried; he hoped that eventually when the etiology of cancer was ascertained a serum would be found against the disease. Actually the method of Keating-Hart was one of the best proceedings for the treatment of cancer. Combined with excision and shelling-out it might not only relieve the patient but might eventually bring about a cure. After excision of the growth the wound was "fulgurated" and a scar was produced; and later granulation and epidermis often developed. He also recommended the administration of a radio-active salt obtained from the Kreuznach springs.

Dr. **COHN** of Berlin said that according to his experiences the Keating-Hart method did not destroy cancer but produced a very quick cicatrisation.

Wound of the Pulmonary Vein.

Professor **VON EISELSBERG** of Vienna reported the case of a Stab Wound of the Pulmonary Vein. The vein was made accessible by temporary resection of the third and fourth rib and the wound was closed by six sutures. The operation was completed within ten minutes. The patient, who was conveyed to the hospital in a moribund and pulseless state, recovered immediately; the pulse in the radial artery appeared as soon as the wound was closed and the hæmorrhage stopped. Unfortunately, the patient died after six weeks from empyema, which was probably metastatic, the primary cause being multiple abscesses in the skin due to injections of morphine.

(To be continued.)

THE DRAINAGE OF CAIRO.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Concluded from p. 1279.)

The Educational Influence of Good Sanitation.—The Complete Abolition of Cesspools.—A New System of Connecting and Disconnecting the House Drains with the Sewers.—The Mosque Latrines and the Public Latrines.—Religious Teaching and Cleanliness.

Cairo.

HAVING described the general scheme in regard to the public sewers, it is now necessary to consider its bearings upon the population, which amounted, according to the census taken in April, 1907, to 644,000 souls. For sanitary purposes this population has been divided into an upper and a lower class. The former consists of 50,000 Europeans and 50,000 Egyptians. Among the 544,000 belonging to the lower class—and I took care to make particular inquiries in this respect—there are a number of Europeans. It would be a great mistake to conclude that the sanitary difficulties are, and will be, created only by native Egyptians. The latter, for the most part, are taught by their religion to be clean, though they are quite ignorant of the principles of sanitary engineering. But the lower class European has neither religious nor any other education that would lead him to make proper and decent use of any sanitary accommodation afforded. Therefore there are many Europeans, notably Greeks, Italians, and Maltese, who, by reason of their dirty habits and tendency to overcrowd, cannot be qualified otherwise than as belonging to the lower class, judged from the sanitary point of view. The drainage scheme is based not merely on this dual classification, but on the calculation that in the course of the next 25 years the population will increase to 940,000, including an upper class of 160,000. Against this last estimate I would enter an energetic protest as being too pessimistic. Should it prove correct, then one of the best purposes of such a drainage scheme will have miscarried. It will be noticed that in these figures the proportion of the upper and the lower class in the enlarged population is maintained with something approaching to mathematical precision exactly as it now is. But one of the most fruitful effects of a general drainage scheme is its educational influence on the lower sections of the population. "Are your drains in order?" is the inevitable question which, all the world over, the sanitarian, the social reformer, and the Lady Bountiful have on their lips as they penetrate the slums, bringing enlightenment, help, and sympathy to the least fortunate sections of the community. Thus some even of the poorest classes are taught the importance of sanitation, and from the sanitary point of view are raised to a higher class by their knowledge. If to-day one out of every six inhabitants of Cairo may be ranked as belonging to a sanitary upper class, after 25 years of object-lessons given by carrying out the drainage works, the proportion of those who understand to some extent the laws of health will be raised to two—let us hope to even three or four—out of every six inhabitants Of course, as the knowledge of sanitation increases the amount of water employed will increase Fortunately, the whole scheme of drainage is conceived on the basis that the maximum normal supply of sewage in dry weather will not do more than half fill the sewers Therefore the sewers will be able to drain away double the amount of sewage likely to flow into them at present

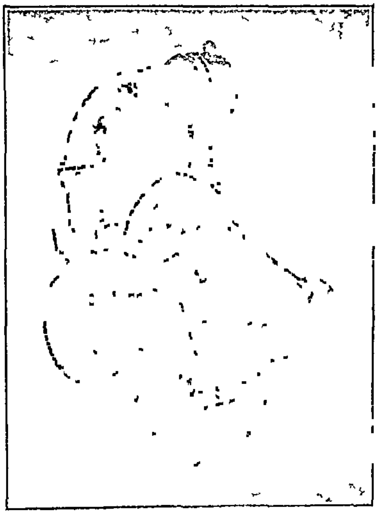
At the same time this question of the amount of water to be carried by the sewers has not been definitely decided, and the present estimate if maintained would constitute the weak side of the scheme I understand that the Cairo Water Company has stated that 18 808,778 cubic metres of water were consumed in 1906, the maximum daily consumption was on June 13th and it amounted to 87,747 cubic metres In winter *only half as much water is used* These *figures* are, however, not of much use as they are based on the existing absence of water closets in most of the houses and on the fact that the majority of the population buy the water they use for domestic purposes Consequently with only the very small quantity of water they can afford to buy domestic cleanliness becomes impracticable Surely the great object of a drainage scheme is, not to perpetuate, but to do away with this state of things The first of all laws of health is to have an ample provision of light air and water The poorer the house the more densely crowded the district, the greater the need of an abundant provision of water so as to replace by constant scrubbing and washing what is wanting in open spaces, light and air In a word, it is the worst quarters, and not the best quarters that need the greatest attention and improvement This obvious fact needs to be emphasised in the plan of dealing with Cairo

The dwellings are divided into three categories There are the houses connected with the actual water distribution and then other good classes of houses that are not so connected Thirdly, we have the houses made of sunburned bricks, *forming* the poorest and most miserable *buildings* The first category of houses have water closets which drain into different sorts of cesspools *fosses* septic tanks, soak aways and other more or less make shift devices All this will be abolished, the receptacles of filth will be carefully filled up and the closets connected directly with the street sewer

The success of these operations will depend on the severity of the supervision exercised The existing cesspools will have to be filled up with clean earth It is no use removing one sort of dirt to replace it with another sort of objectionable matter As it is, everyone knows that the cesspools are a source of danger, and some persons endeavour to cope with this menace by employing septic tanks and other contrivances But when the cesspools are filled up it will be thought that the danger is over, yet it may still be present If the material put in is not suitable or is not itself clean the new state of affairs may be more perilous than the old because it will be unsuspected Having thoroughly cleansed the inside of the houses and removed all trace of the old and barbaric cesspool system the next *thing* will be to establish such connexions with the sewers as will permit the immediate evacuation of all soil and slop water from the houses without letting any air travel back from the sewer into the house *It seems* a paradox but the object is at once to connect and yet to disconnect the houses For more than half a century the greatest ingenuity has been displayed to achieve this double and, as it were, contradictory purpose The method to be employed at Cairo is [illegible] whatsoever about the question Instead of disconnecting chambers, inlet and outlet soil pipe ventilators, a form of interceptor and ventilator shown in Figs 1 and 2 will be placed between the private house drains and the public sewers

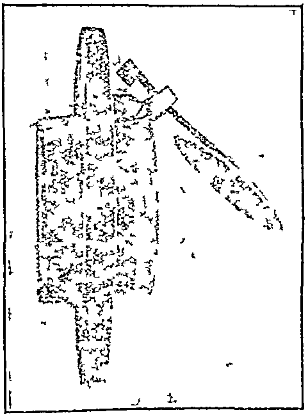
With the assistance of the accompanying illustrations it will be easy to realise the working of this ingenious contrivance The first (see Fig 1) shows the ordinary syphon trap providing a three inch water seal Above this ordinary syphon trap there is a ventilating arm leading to a small circular compartment which holds a carefully balanced valve The valve opens from inside, that is, from the house outward, and is illustrated by Fig 2 If the current of air is from the sewer to the house it closes the valve On the other hand, even a very slight current of air coming from the dwelling, down its soil pipe or its slop and waste water pipes will suffice to raise this valve and thus allow the air to escape into the sewer The current of air passing by the valve must always be from the house to the sewer, while there is the three inch deep water seal as well as the swinging valve to prevent air ascending from the sewer into the house It will be seen at once that the successful working of this apparatus depends on two indispensable conditions First, the disconnecting trap must rest on a sure immoveable foundation

FIG 1



The ventilating interceptor to be placed by the authorities between the private house drains and the public sewers

FIG 2



The valve within the ventilating interceptor which opens to let currents of air pass from the house drains to the sewer but closes to prevent air from the sewer ascending into the house

It has to be evenly poised so that the valve hangs straight down and keeps the aperture closed until the pressure of air from within is strong enough to lift the valve. Like a balance, it must be on a true level. Any negligent workmanship may defeat the whole object of the apparatus. The second indispensable condition is that the syphon trap shall always be full of water. Any scarcity of water might prove fatal to the system, for the seal would fail to prevent the sewer air travelling up into the house. Epidemics are known to have ensued when closets are used which have not been used for a certain time. The water has evaporated from the traps and the sewer air has thus been able to enter the house. This, for instance, occurred at Brussels. Many cases of typhoid fever were noted in the wealthiest and most fashionable part of the town when the inhabitants of luxurious houses returned after the holiday season. During their absence no one had thought of flushing the house drains, the water in the syphons evaporated, and these dwellings were reeking with sewer air by the time their owners returned. The sewers of Brussels are not self-cleansing sewers, so that the danger was much greater than will be the case in Cairo if the ideal of a truly self-cleansing sewer is realised. For that purpose, however, there must be sufficient water. For the houses that are to drain direct into the sewers and are to be protected by the intercepting and ventilating trap I have just described, it is estimated that there will be a supply of water amounting to 150 litres per head per day. This, however, only covers a very small part of the ground, and it is situated for the most part in the European quarter. At present the accommodation in the greater number of the private houses is so filthy and repulsive that a large proportion of the men prefer frequenting the mosques.

Mr. Carkeet James states that he has obtained from the mosques an estimate of the number of people using the mosque latrines and the water they consume. Roughly, about 150,000 daily make use of the mosque latrines, but out of 352 mosques no less than 259 raise water from their own wells, and only 93 subscribe to the water company's supply. Obviously the water from wells dug in such a soil as that of Cairo is only fit to flush closets. The Wakf administrators who control the mosque property have fortunately expressed their desire to help in the realisation of the drainage scheme, and the hope is also entertained that they will do away altogether with these very suspicious wells. In dealing, however, with the statistics relating to the mosques, there is the same hopeless tone against which I have already protested. Thus the estimate is made that in 1932 the number of persons frequenting the mosque latrines will be 215,000 per day; yet surely by that time the accommodation in the dwelling houses will have so improved that, in spite of the increase of population, there should be a decrease in the number of people making use of the mosque latrines. Besides, whatever is done at the mosques only concerns men. From a sanitary point of view women and children represent as important a section of the community, and a larger section.

Then, again, it seems to me that, in the plans and calculations formulated in regard to the public latrines, we have another illustration of a want of that faith in human progress which should constitute the spirit and the strength of sanitary reform. We are left to infer that these public latrines are a public necessity, not for those persons who are too far away to reach their homes, but as a substitute for the accommodation every home should contain. The public latrine is not to be a convenience, but it is to be a means by which it will be possible to postpone the supply of proper closets in private houses. It is proposed to construct about 400 urinals and latrines, having an average of ten seats each. Then there is the astounding statement that, deducting the upper classes and those who use the mosques, there will be in 1932 a population of 565,000 available for using the latrines daily, and they are magnanimously allowed ten litres of water each! If the 400 latrines are to have ten seats each, this makes 4000 closets for 565,000 people, or 140 persons for each closet. Our Common Lodging-houses Act is no grandmotherly specimen of modern legislation. Though it is one of the best among our sanitary laws it was enacted as far back as the year 1851. It does not legislate for the privileged classes nor for the upper classes so carefully parcelled out and set aside in the Cairo sewage scheme. It legislates for the outcast, the vagabond, the tramp, the beggar, the thief, the outlaw; and under the sliding scale of accommodation permitted by the Act the London County Council has declared that none of these social wrecks shall have less than one closet for every 12 inhabitants of a common lodging-house. This is the accommodation which in London is declared necessary for the poorest of the poor. Nor is this a mere affirmation of a principle. Throughout the length and breadth of the country the law is strictly applied on some such principle, and it has proved of the greatest benefit to the poorest and most degraded sections of the community.

Obviously the figures I have quoted are not serious. They represent simply an extreme statement, a calculation made to show that, even if a sufficient amount of water cannot, for the time being, be obtained, Cairo will nevertheless be drained; the cesspool will be abolished, the filth will reach the sewers, the contamination of the subsoil will cease, and an immense progress will be achieved. In every part of the great town the streets will have sewers. Instead of remaining in the town for years, soaking gradually into the subsoil and contaminating the surroundings, sewage, even if it is produced at the farthest extremity of old Cairo, will travel in less than five hours the whole length of the sewers and reach the sewer outfall in the desert, where it will be beyond the possibility of doing any harm. The far-reaching character of such a change is not easily to be appreciated by those who have no practical experience of such matters.

Remains the question of domestic drainage, especially that of the poorer houses and their connexion with the sewers. This is a phase of the problem that has not yet been settled. As it is of the greatest practical importance, it is fortunate that there is no need of immediate haste. The outfall and main sewers have to be built, and then must follow the branch sewers; the connexion with the houses is the last, the final, step. The nature of the house drains will depend first on the amount of water available, and secondly on the possibility of teaching the population how to make proper use of proper water-closets if these are supplied. In the meanwhile, Mr. Carkeet James is determined that there shall be no lack of public latrines, especially for the use of women and children. The plans and the drawings for these are already prepared, and they constitute conclusive circumstantial evidence to prove that the native Egyptian is capable of being taught to observe sanitary rules. Each closet will be provided with a tap on the right hand side, so that, according to the sacred law, water may be taken in the right hand while the left hand holds the clothes and helps to wash. Not only does the Mohammedan wash before prayers but after frequenting the latrines. Cheap paper being a European and comparatively modern contrivance, most Egyptians carry round, smooth stones in their pockets. These are of two sizes, the smaller ones being used carefully to remove and throw away with the stone the very last drop of urine. Such minute care is quite unknown among Europeans. But is it not obvious that if all these people can be taught to collect and carry about these stones for such purposes, and constantly to wash themselves according to a well-established ritual, they could with equal, with greater, facility be taught to pull a string so as to flush the pans and syphons of proper water-closets should these be provided? Indeed, when some years ago a public and paying latrine was opened in the Ezbekiyeh Gardens the first person to patronise this establishment was a Greek. He, however, made a great disturbance when asked for the small sum charged, and not only left without paying, but it was subsequently discovered that he had purloined a towel and a piece of soap. The Egyptian is far more docile and easy to govern. Apparently, however, no effort is to be made to introduce the use of paper, for the plan of the public latrines provides catch-pits to collect the stones and prevent their reaching the sewers.

The details for the drainage of the dwellings of the poor have not yet been settled. Experiments will be made; there is no need of at once settling on a uniform plan. But it has, in any case, been decided to do away with the horrible and leaking cesspools which exist in many of these wretched houses. Further, a contrivance has been suggested which might be employed temporarily and until such time as proper closets can be introduced. It would prevent the contamination of the subsoil. The great fact is that sewers are about to be built; that there is every reason to believe that they will work well, promptly and safely removing the sewage which is emptied into them. How far the houses by the side of the sewers will avail themselves in a thoroughly satisfactory manner of the facilities thus offered depends, I repeat, on the provision of sufficient water and on the intelligent understanding by the inhabitants of the purport of drainage. The British people were just as ignorant as the Egyptians, and far less docile and easy to teach. Nevertheless, though there are still dirty and careless people in England who degrade and destroy the sanitary accommodation provided for them, the construction of sanitary closets has, on the whole, worked well and largely contributed to the notable reduction in the death-rate. There is no reason why, with the exercise of tact and by careful teaching, that which has been done in England should not be likewise achieved in Egypt.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

The University of Bristol.

AT a recent meeting of the Bristol city council it was decided, with hardly any opposition, to support the University by a rate of 1*d.* in the £. This will mean an addition to the University income of £7000 per annum; £4000 will go to meet ordinary expenditure, while £3000 are to be reserved for special purposes, particularly scholarships and exhibitions. By the recently published will of the late Sir Frederick Wills the University funds are to receive £5000. The scheme for the establishment of a hostel for women students has now gone so far that arrangements are being made to open a hall of residence in time for the coming session. It is hoped to begin in commodious premises, with a large sunny garden, situated in a high and healthy part of Clifton. The hall will provide separate study-bedrooms, common rooms, library, and all the essential requirements possessed by the women's colleges at Oxford and Cambridge.

The Bristol Royal Hospital for Sick Children and Women.

The annual meeting of the "Ladies' Auxiliary" of this institution was held on April 27th. The report showed that during 1908 34,620 houses had been canvassed by ladies and the record sum of £823 collected.

Sanitary Inspectors' Association.

The quarterly meeting of the south-western centre of the Sanitary Inspectors' Association was held at the Guildhall, Bath, on May 1st. The delegates were received by the Mayor of the city. Mr. Moss-Flower opened a discussion on "The Need or Otherwise of the Intercepting Trap in House Drainage." Subsequently the old Roman baths and the modern bathing establishment were inspected by the visitors, who were entertained by the Mayor.

Death Certification by a Midwife.

An inquest was held at Crowlas, Cornwall, on April 26th, relative to the death of the twin children of a local miner. Evidence showed that the mother of the children was attended in her confinement by a registered midwife and that one child died two days after birth and the other lived some five days later. The midwife gave a certificate that the children had died owing to premature birth, and the grave-digger of Crowlas Cemetery buried the children on the "authority" of this certificate. Eventually the coroner ordered the exhumation of the bodies and a post-mortem examination. The medical evidence showed that death was due in both cases to congenital inanition. The coroner (Mr. . Boase) said that the midwife had behaved in an extraordinary manner and he should report her to the county committee as being unfit to be entrusted with a certificate, and he should draw the attention of the local authorities to the necessity of framing regulations for the management of the cemetery, as the grave-digger had stated in his evidence that "he considered he could bury six weeks' old children, which he termed stillborn, upon the certificate of a nurse." The jury returned a verdict in accordance with the medical evidence and added riders endorsing the views of the coroner.

The Taunton "Association to Aid Consumptives."

The annual meeting of the friends of the "Taunton Association to Aid Consumptives" was held recently, under the presidency of Mr. H. T. Rutherfoord. The report stated that nine patients had been admitted to the sanatorium during the past year and ten patients had been discharged. The financial statement was satisfactory and showed a favourable balance.

National Poor-law Officers' Association.

The Devon and Cornwall Branch of the National Poor-law Officers' Association held its quarterly meeting at Bodmin on April 24th, [illegible] ing address [illegible] Commission. [illegible] the members was that the suggested change in Poor-law administration was not desirable.

The Exeter City Asylum.

At a meeting of the Exeter city council held on April 28th the resolution which was passed at a previous meeting to enlarge the City Asylum at a cost of £10,000 was rescinded by 27 votes to 22.

The Royal Mineral Water Hospital, Bath.

The annual meeting of the governors of the Royal Mineral Water Hospital, Bath, was held on May 1st under the presidency of Colonel M. Ricketts. The report stated that as the year closed on Dec. 31st last instead of in March as heretofore, the period under review was therefore only nine months. During that time the daily average number of in-patients was 144, compared with 147 in 1907–08. There had been a slight increase in annual subscriptions and donations but a deficit balance of £1018 remained. The committee regretfully records the death of Dr. Charles Coates who had been connected with the hospital for so many years.

May 3rd.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

A Deficiency in Medical Inspection Reports.

MEDICAL inspection reports from various surrounding towns and districts continue to appear and are published in a more or less abbreviated form. All the published reports show a certain average of bodily and mental defects which might have been thought to be easily recognisable without the expensive machinery now at work, yet none give any satisfactory account of the relation of defects to the bodily physique, though occasionally, as in Dr. W. C. Garman's recent report for Wednesbury, a statement appears that the children are below the normal standard and the average height and weight is given. No general attempt has yet been made to show any correlation between the unsatisfactory physique and the actual bodily deficiencies, and still less has there been any attempt to estimate the relationship of the physique of the children to that of the parents and to the staple employments of the district. At present, it would seem, a large State organisation is engaged in performing the duties of the parents, for any ordinarily thoughtful and careful parents, considerate of and desirous for the welfare of their children, would readily recognise the majority of the disabilities mentioned in the published records of medical inspection, and would have them attended to either by their own medical adviser or at one of the numerous medical charities. If their natural inclinations do not induce them to exercise proper parental care, parents should be stimulated to their duties by the imposition of penalties for neglect rather than encouraged to neglect them and transmit them to a State organisation, and they might also be called upon to report to the proper authorities any physical or mental disabilities likely to interfere with education. If this were done then the scientific skill at present largely occupied in mere recording could be utilised to investigate the relationship between the physical condition of the children and their environment and heredity, an investigation which promises much more useful information to the State than that which is published in this neighbourhood as the results of medical inspection.

The Women's Hospital.

Three very satisfactory features are noticeable in the annual report of the Women's Hospital. They are the reduction of the death-rate to 0·77 per cent., a diminished expenditure, and an increasing income. The total number of new and old patients treated was 18,845, or almost 1200 less than in the previous year. The number of new out-patients was 3573, being 181 more than in 1907. 742 in-patients were admitted, a decrease of 37 as contrasted with the previous year, and there were 719 operations, of which 385 involved abdominal section. The decrease in the expenses is perhaps to be attributed to more careful supervision of detail. The increase of income is due very largely to the efforts of the recently formed Women's Hospital League, which has collected subscriptions of £57 and donations of £478, and in part to the fact that it has been possible to invest some of the legacies. In spite, however, of the improvement of the finances the excess of expenditure over income was £1020. Therefore work still remains which will test the ability of the Women's Hospital League.

The Birmingham Infants' Health Society

The report presented at the first annual meeting of the Birmingham Infants' Health Society contained not only a record of good work accomplished but also a promise of still better results in the future. So far the work has been limited to one of the worst districts in the city, St. Bartholomew's ward, which contains a population of 22,759 in a space of 313 acres. It is therefore a crowded population and its infantile mortality is 201 per 1000, a figure which clearly indicates deplorable conditions. After the society was formed an infants' consultation was started and in connexion with this 204 children were registered, of whom 190 were under 12 months old. 43 of the 190 were lost sight of, leaving 147; of these, 14 died, giving an infantile mortality-rate of 95·2, which contrasts very favourably with the general rate for the whole ward. Naturally, for several reasons, too much stress cannot be laid upon this figure at present, but it is a hopeful sign, and its significance is increased by the fact that not only was improvement noted in the children but also in the cleanliness of their mothers.

Two Health Reports, Mid-Warwickshire and Smethwick.

The record of falling birth-rates has become so monotonous and regular that one is inclined to accept as inevitable Dr. G. Wilson's report of a slight but still further fall in Mid-Warwickshire from 23·7 to 23·3 per 1000 for the total population, the variations being from 29 in the Southam rural district to 19·4 in the Warwick rural district. On the other hand, Mr. W. F. Marsh Jackson's report of a slight but distinct increase in the Smethwick district is very pleasantly surprising, and Smethwick's birth-rate of 30 per 1000 compares very favourably with the general rate for England and Wales, which is 26·5 per 1000. When the infantile death-rates are contrasted, however, Smethwick's position is not so favourable, the death-rate for Mid-Warwickshire being 88 per 1000 for the combined districts, as compared with 110 per 1000 as the average for rural and small urban districts in England and Wales, whilst Smethwick's rate is 135 per 1000, which does not compare well with the well-populated district of Yardley in the Mid-Warwick area, where the infantile death-rate was only 100 per 1000. Clearly there is room for the work of an infants' health society in Smethwick.

The Diagnosis of Syphilis of the Nervous System.

At the last meeting of the pathological and clinical section of the Birmingham branch of the British Medical Association Dr. F. W. Mott opened a discussion on the diagnosis of syphilis of the nervous system with a brilliant and lucid paper which embodied the results of his own long experience and extensive researches. He emphasised the extreme importance from the point of view of treatment of an early differential diagnosis between syphilitic, pseudo-syphilitic, and parasyphilitic conditions. He laid great stress upon the ruder and coarser results produced in the earlier stages as contrasted with the more insidious and persistently progressive effects of the disease in its later periods, and he expressed the opinion that whilst great reliance could be placed upon the curative action of a proper course of mercury in the earlier stages that drug was little use, if not even harmful, in the later stages. It was generally admitted that the differential diagnosis was in many cases extremely difficult, but it could be made practically certain by careful examination of the cerebro-spinal fluid and the use of the Wassermann reaction. Unfortunately the Wassermann test is not one that can be applied in ordinary practice nor even in hospital wards, and at present it cannot even be made in many otherwise well-equipped pathological departments; it is hoped, however, that before long it will be possible to apply the test in the University pathological laboratory.

May 4th.

LIVERPOOL.

(From our own Correspondent.)

Dr. E. W. Hope's Silver Jubilee of Office: Interesting Presentation.

A pleasant gathering was held on April 30th at the Municipal Offices, over 170 members of the sanitary staff of the corporation assembling to do honour to the medical officer of health (Dr. E. W. Hope) who recently completed 25 years of civil service. Dr. A. A. Mussen (assistant medical officer of health) presided over the enthusiastic gathering, which included all the lady sanitary inspectors, each of whom carried a few flowers and so lent a festive aspect to the proceedings. The chairman, before presenting Dr. Hope with an illuminated address and an antique silver tankard, spoke of his distinguished services and the zeal which he had shown for the highest interests of his staff. Not only were Dr. Hope's annual reports among the best of their kind, and thus nationally recognised, so that his position as an authority on public health was very high, but his evidence on sanitary matters was sought in the law courts and before Royal commissions and departmental committees, while he was often consulted by Government officials. All the members of Dr. Hope's staff trusted it would be long before he qualified under the retirement scheme, and personally he (Dr. Mussen) thought this celebration of 25 years' service was a splendid idea. The prestige of the staff was now at its highest, and Dr. Hope was a chief who always gave credit to those who worked well for him. He wished Dr. Hope might be spared for another 25 years. Other officials heartily endorsed Dr. Mussen's remarks. Dr. Hope, in accepting the presentation, said it was difficult to realise that he was in his twenty-sixth year of service while seeing present faces which had been around him all those years and which were so little changed. The most important duty of his early days as medical officer of health was to certify patients suffering from typhus fever. Within the first six months he certified more than 1000 such patients, but to-day typhus fever was looked upon as a rare disease and as pointing to something which ought not to exist. The city had 25 years ago no municipal hospital and he had to depend on the good offices of the boards of guardians, which rendered the city admirable service then and had done so ever since. Even when a city infectious hospital was opened in Grafton-street it was sometimes so difficult to induce a patient to go there that a magistrate's order had to be obtained, and the patient compelled by force to enter the hospital. Nowadays, if the patient was not promptly taken to hospital the relatives and friends quickly wanted to know the reason why. 25 years ago there was no system of notification of infectious disease. His staff was then small, only about a dozen. Since then, however, a series of Acts of Parliament, some being originated by the Liverpool corporation, had been put into operation, with a consequent increase of the health office staff, while the central growth and extension of the city from 450,000 inhabitants to over 750,000 had been accompanied by an automatic multiplication of inspectors. The sanitary work of the port, through which as many as 400,000 emigrants passed in a single year, and the enormous importation of foodstuffs, had led to enlarged work for inspectors, while the task of caring for the health of the children in the schools was only just beginning, and the notification of births would lead to still more duties being cast on the health office. What was there to show for all this sanitary zeal? Well, unhealthful conditions had been swept away which if present to-day would shock the public eye, so that on the negative side there was much to be credited to sanitation which was invisible. There was, however, one great fact to be proud of and to be seen—the remarkably improved health of Liverpool. That was the reason of the existence of his office—the improvement of the public health. It was by one continuous, united, concerted effort that improvement in the health of the city had been effected. The improvement had taken place, not only in the old parish and Parliamentary borough of Liverpool, but in all the districts which had been absorbed in the municipal area. One great argument against the absorption in 1895 was that the health of the out-townships was so good that it could not be improved. Improvement, however, as great as that in the old parts of the city had been since wrought in the suburbs. The Town Planning Act, which by the provision of wide streets and open spaces was to prevent a repetition of the errors of the past, would result in a further great development of sanitation. Moreover, people were increasingly willing to listen to advice concerning their health and that of their homes, and he was glad to say the poor people were as amenable and as willing and anxious to do what they could for themselves in a sanitary sense as any other class. In short, sanitary science had reached a stage at which the city and the nation would advance at an accelerated rate. He would always prize the beautiful gifts he had received.

The Sleeping Sickness Expedition of the Liverpool School of Tropical Medicine.

At the last meeting of the African trade section of the Liverpool Chamber of Commerce Dr. Allan Kinghorn, a member of the sleeping sickness expedition, gave an address upon the investigation of sleeping sickness. He pointed out that the tsetse fly had a wide distribution over the whole of the territory with which the expedition had been dealing, and cattle diseases due to varieties of trypanosomes, and referable finally to the agency of this fly, were abundant everywhere. The absolute safety to life ensured by European administration, the opening of markets for the sale of local produce, and the demand for a constant and abundant supply of labour had resulted in an unprecedented movement amongst the native population; and, as until recently no checks had been imposed on this, many new foci of sleeping sickness had been established, for which we were now paying the price. Most Governments were taking action, but the harm was done before the cause and method of spread of the disease were known. It was formerly thought that only the negro race was affected. The comparative safety of the white man was due to his clothes and the other conditions under which he lived. Wherever the glossina palpalis existed in the presence of an infected person there existed the danger of the spread of human trypanosomiasis. Whilst this species of fly, known as the river fly, was capable of transmitting the disease, some doubt existed as to whether it was that fly only which could do so. He considered it safer to hold the view that other species of tsetse fly might transmit it also. In order to check the spread of the disease the indiscriminate movement of the native population must be controlled. The glossina palpalis required shade and could be got rid of by making clearances along water courses which must be thorough. International coöperation was necessary in dealing with sleeping sickness.

May 3rd.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

The Appointment to the Department of Pathology in the Royal Infirmary and College of Medicine.

IN a former letter I drew attention to the fact that the house committee of the Royal Victoria Infirmary had come to the conclusion that the time had arrived when the work of the pathological department should be in the hands of a skilled pathologist devoting his whole time to that branch of medicine. Feeling, very properly, that it was desirable, if it could be arranged, that the infirmary should associate itself with the College of Medicine in taking this step a conference was arranged between the two institutions to discuss and if possible to come to some mutual arrangement whereby they should make a joint appointment. The outcome of the conference was the appointment of a joint committee to advertise for and select a candidate for the position of pathologist to the infirmary and lecturer on pathology at the College of Medicine. In response to its advertisement the committee received applications from a number of suitable candidates, and after duly considering these it recommended that Dr. Stuart McDonald, M.D., F.R.C.P. Edin., be appointed. This recommendation was approved by the house committee and by the College, and Dr. McDonald has therefore been appointed. Dr. McDonald is at present lecturer on pathology and bacteriology in the School of Medicine of the Royal Colleges, and School of Medicine for Women in Edinburgh, pathologist to the Royal Hospital for Sick Children and to Chalmers' Hospital, Edinburgh, and examiner in pathology for the Conjoint Board for Scotland. The committee is to [illegible] ...ate and Dr. [illegible] l important [illegible]

The Newcastle Sanitary Committee's Estimates.

The Newcastle city council has reduced the estimates presented by the sanitary committee for the ensuing year by £3000. The corporation decided that, in view of the present state of trade depression—which in the opinion of those most competent to judge, shows no signs of immediate improvement—it was desirable that there should be no increase in the rates. The various committees were therefore instructed to exercise the most rigid economy in preparing their estimates, and though this was presumably done the sanitary committee has had its estimates altered as stated above. In view of this restriction upon its expenditure the sanitary committee has notified four of its health visitors that it can no longer retain their services. This is a very serious matter for the four women, who thus lose their appointments through no fault of their own, and they are deserving of every sympathy in their present unfortunate position. This decision of the sanitary committee raises an important question of principle, for if the precedent thus set up of dispensing with officials during an outburst of economy be followed it naturally results that capable persons will be very chary of accepting positions under a corporation which is likely to discharge them for no better reason than that it is unwilling to ask for the money wherewith to pay their salaries.

Death of Dr. James Limont.

It is with much regret that I have to record the death of Dr. James Limont, which took place in Edinburgh on May 1st, after a lingering illness which lasted some two and a half years. Dr. Limont was a son of the Rev. W. Limont, a Presbyterian minister, and was born at Alnwick on April 9th, 1856. He was educated at Alnwick Grammar School and subsequently at Edinburgh University, where he graduated M.A. with honours in 1878, B.Sc. in 1879, and M.B., C.M. in 1880. In 1882 he became a Member of the Royal College of Surgeons of England and was admitted a Member of the Royal College of Physicians of London in 1886. After qualifying in medicine Dr. Limont was appointed house surgeon to the Edinburgh Royal Maternity Hospital and the Simpson Memorial Hospital, and also became senior demonstrator of anatomy in the Minto House School of Medicine, Edinburgh. From Edinburgh Dr. Limont went to Glasgow to undertake the duties of house surgeon and house physician to the Glasgow Royal Infirmary, and it was during this time that he came under the influence of Mr. (now Sir William) Macewen. It is about five and twenty years ago that Dr. Limont came to Newcastle on being appointed senior house surgeon and house physician to the Royal Infirmary. In 1885 he was elected an honorary physician to the infirmary and was reappointed to that position in 1900. Dr. Limont devoted himself especially to the study of diseases of the skin and was appointed a physician in charge of the skin department at the infirmary some 14 years ago, and it is to his skill and unfailing interest in the work, ably assisted as he was during the last 11 years of his tenure of the appointment by Dr. D. Wells Patterson, that the department owes its present efficiency and importance. Dr. Limont was joint lecturer in clinical medicine and had been an examiner in medicine in the University of Durham. In the College of Medicine Dr. Limont held the lectureship in medical jurisprudence. Dr. Limont was a man somewhat reserved in manner, but to those who enjoyed his confidence he was of a genial disposition and a very true friend. His death will be a great loss to the teaching staffs of the infirmary and the College. Dr. Limont leaves a widow, one son, and four daughters.

May 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Observations on Growth.

AT a recent meeting of the Royal Philosophical Society of Glasgow a paper was read by Dr. Arnold H. Gray on the Laws of Individual Growth. Dr. Gray began by stating that he had obtained a long series of records of the rate of growth of boys from one of the public schools, and that he had made a series of observations on the mode of growth in animals and plants. The work had been undertaken because, although there was a large amount of information on average growth, at present very little existed concerning the different methods of individual growth. From the series of school observations where the heights and weights were taken at frequent intervals it was found that the rate of growth might be regular, irregular, or cyclic. In the regular type the child increased at a uniform rate. This type was not common in the human subject, occurring in only 12·3 per cent. It was also rare in the case of rabbits and guinea-pigs, but was the usual mode of growth in the internodes of plants. The irregular type was the common form in man, and found to the extent of 83 per cent. Growth was interrupted for periods of indefinite length, when the increase was slow or completely suspended, this stage being followed by another, when growth perhaps was very rapid. This was also the usual type found in rabbits and guinea-pigs. In the cyclic type variations in the rate of increase occurred in a definite order, forming a succession of waves in the curve of growth. It was very rare in man, being observed in only 4·7 per cent. of the cases. It was only occasionally seen in rabbits, though it was representative of the mode of many of the lower animals. In Belvidere Fever Hospital 1395 children suffering from infectious diseases had been weighed and measured on admission and dismissal. The average rates of growth in scarlet fever, measles, and diphtheria were slower than the average rate of growth of children at the same age. In normal children spurts of very rapid growth occurred, and in children suffering from fevers only 65 out of 1395, or 4·6 per cent., showed extreme activity of increase. According to Dr. Gray, temperature, nutrition, and conditions of housing, though affecting growth in general, did not influence the type of growth. The child was born with a tendency, possibly hereditary, towards one form of growth or another, and external agencies played little, if any, part in determining regularity, irregularity, or cyclic variations in the rate of increase.

Consumption in Lewis.

Dr. D. Murray, medical officer of health of the parish of Stornoway, has issued his annual report. He states that through lack of funds, as far as the general sanitary conditions are concerned, the problem remains untouched, although during the year there has been some little improvement on village water-supplies by sinking new and protecting existing wells. To meet the sanitary situation of the island, Dr. Murray suggests as the minimum requirements: (1) education of the people in sanitary matters; (2) practical instruction in hygiene of the school children; (3) an improved type of dwelling-house; (4) loans for building houses and the removals of cottars from congested crofts to "skinned" land; (5) water, drainage, and scavengering schemes; and (6) the rural policemen to act as sanitary inspectors. Anent the last suggestion, Dr. Murray remarks that all acquainted with the social condition of Lewis know that outside the burgh of Stornoway the policemen have practically nothing to do but walk their beats; and he expresses the hope that the red-tape officialism, which divides the public services into water-tight compartments having no connexion with each other, will not be allowed to stand in the way of the police acting as local sanitary inspectors, and doing, as with some training they could, splendid work in the interests of sanitation and public health. Regarding consumption, the statistics are startling. The report states that in the landward part of the parish of Stornoway last year there were 25 deaths from phthisis, and four others from other forms of tuberculous infection. Within the burgh there were nine deaths from consumption, a total of 34 for the whole parish. "If these deaths," the report proceeds, "resulted from fever, the community would be panic-stricken, and ready to make any sacrifice to arrest the plague. While phthisis is too insidious in its operations to have such a dramatic effect, it is an immensely greater menace to the life and well-being of the young people of Lewis than even fever was in its worst days." Dr. Murray is preparing a special report on consumption to emphasise matters, and to suggest lines of action, discussion of which may lead to something being done to arrest the progress of the disease.

University of Aberdeen: Summer Session.

The summer session at the University of Aberdeen commenced on April 27th. The attendance at most of the classes was quite up to the average of former years.

Aberdeen Water-supply: A Serious Pollution.

The water committee of the Aberdeen town council paid a visit recently to the irrigation works at Tarland and Lumphanan, where it was reported contamination of the city's water-supply was taking place. At Tarland the committee found that the tenants who had obtained possession of the ground from the district committee had diverted the sewage from the irrigation field and that it was discharging direct into the stream which joins the Dee at Aboyne. At Lumphanan an even worse state of affairs was found, the ground being absolutely sodden and no irrigation taking place. At both places it was evident that this dangerous condition of affairs had been going on for some time. The committee resolved at once to draw the attention of the district committee to the matter.

May 4th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Second Congress of Physico-therapeutics.

THIS congress was opened on April 13th under the presidency of the Dean of the Paris Faculty of Medicine, Professor Landouzy, who inaugurated the proceedings with an address, pointing out the importance of physical methods of treatment and the necessity for basing their use upon the results of a daily clinical examination. The subject first on the list for discussion was Physical Agents in the Treatment and Diagnosis of Infantile Paralysis. M. Gunsberg of Antwerp, who spoke first, gave an account of the rôle played by mechano-therapy. M. Hirschberg of Paris said that massage, properly speaking, did not cure the paralysis due to the poliomyelitis but was a very useful agent in overcoming the muscular atrophy. Its action ought to be enhanced by motor re-education and gymnastics. M. Libotte of Brussels said that in the acute stage of the disease hydrotherapy seemed to be the only method capable of reducing the inflammation of the spinal cord. Once, however, the paralysis was established this method of treatment could only be considered as an adjuvant to other methods. M. Kouinjy of Paris spoke on the importance of re-education and gave an account of its technique and the indications for it. M. Marques of Montpellier discussed electricity both for diagnosis and treatment. The second question down for discussion was—Physical Agents in the Treatment of Acne and Acneiform Lesions. M. Dausset of Paris, in opening the discussion, said that he did not consider that Bier's method played a very important part in the treatment. For his own part he considered that hot air was useful in the form of a douche as an adjuvant to massage; the suction glass was efficacious, but its employment was difficult and patients disliked it. M. Gaston of Paris said that radio-therapy was the logical method of treatment, for it had a distinct physical and chemical action on glands and might even cause them to atrophy. M. Viel of Paris discussed the question from the dietetic point of view. Every patient must be dieted in accordance with his or her special individuality. M. Oudon of Paris held that the static or else the high-frequency discharge diminished and finally caused the disappearance of the seborrhœa and even of the comedones. It was thus an excellent preventive of further manifestations of acne and enabled the physician to empty and to cleanse the pustules of acute acne. M. Dubois of Saujon discussed the utility of the vapour douche. Various speakers next discussed the clinical and scientific objections to the use of physical agents in the treatment of disease by non-medical persons. All were of opinion that such a custom was highly dangerous. Varix and varicose ulcers were the next pathological conditions to be dealt with. M. Gaston Bloch said that massage was very soothing in painful varices but should be combined with gymnastics and gentle walking. M. Vermeulen dealt with mechano-therapy, and M. Bourcard devoted his speech to massage in phlebitis. He immobilises the limb but gives abdominal massage, which, according to him, reduces the temperature and modifies the composition of the blood. M. Durey discussed hyperæmia in the treatment of varicose ulcers. M. Dubois advised local cold douches for non-complicated varices and hot douches in the case of those which were painful. M. Laquerrière mentioned other local treatments besides those which had for their object the modification of the nutrition and the circulation, and M. Bordet spoke upon the state of the muscles in the case of varicose limbs. Many other papers on various subjects were read at what proved to be an interesting an instructive congress.

Cocaine Anæsthesia for Dislocations.

At a meeting of the Surgical Society held on April 21st M. Quénu gave an account of this method. In a case of backward dislocation of the elbow he injected three centigrammes—i.e., just under half a grain—of cocaine into the triceps, and reduction was easily effected without pain. In another patient a 1 in 200 solution of cocaine was taken and one cubic centimetre was injected in three different places around the elbow-joint. In a dorsal dislocation of the thumb four cubic centimetres of the solution was injected in four different spots around the joint and reduction was painless. In a dislocation of the shoulder injection was made into the deltoid, the pectoralis major, and the latissimus dorsi. The dislocation was of the subcoracoid variety. An assistant abducted the arm and the head of the humerus moved into the axilla, when reduction was easy. Finally, in dislocation of the hip-joint three centigrammes of cocaine were injected at the outer side of the vessels into the cavity of the joint. Reduction was easy. The cocaine besides makes a clinical examination easy, for the spasm of the muscle ceases after injection into the articular cavity.

Treatment of Gangrenous Strangulated Hernia.

At the Forty-seventh Congress of Learned Societies recently held at Rennes from April 5th to April 7th M. Hardouin gave an account of nine cases of this condition on which he had operated. In these nine patients resection of the gangrenous mass was performed in six followed by immediate entero-anastomosis with three recoveries and three deaths. In two cases an artificial anus was made and there were two deaths. In one case the strangulated portion of the intestine was fastened outside, an artificial anus being formed spontaneously afterwards, and death resulted. Intestinal resection in a case of a strangulated gangrenous hernia is the method of election but yet is a very grave operation. In studying the French and foreign statistics of the operation M. Hardouin noted that of 986 cases of resection followed by entero-anastomosis 399 died—viz., a mortality of 40 per cent. In 620 cases of artificial anus there were 447 deaths, or 74 per cent. These statistics date from 1878 and since then the technique of intestinal resection has improved enormously with the progress of asepsis. In recent statistics the mortality of resection of gangrenous intestine has fallen to 33 per cent., and in cases where Murphy's button is used to 8 per cent. Intestinal resection, which is still but little performed in France, seems now destined to take one of the first places in the treatment of such lesions.

The Bacteriological Analysis of Sea-water.

At the same meeting of the same Congress M. Bodin and M. Sacquepee communicated a paper on the bacteriological analysis of sea-water. They had made researches on water taken from the bay of Cancale. This, when collected well out at sea (*au large*), proved to be very pure from the microbial point of view, containing only from 200 to 400 aerobic germs per cubic centimetre. If taken from a depth [illegible] the water taken from [illegible] were met with. Sea-[illegible] purifies itself quickly. Thus water containing 16,500 bacteria per cubic centimetre when taken at the outfall of a sewer contained only 1100 when taken at a distance of 100 metres away and at 400 or 500 metres away its composition was the same as that taken *au large*—namely, it contained between 200 and 400 germs per cubic centimetre.

The Treatment of Furunculosis.

At a meeting of the Academy of Medicine held on April 24th M. Mauté gave the results of a treatment which he had adopted in a case of furunculosis. The patient was injected with an antistaphylococcic vaccine prepared by emulsionising the staphylococci obtained from his own pustules in physiological serum. The emulsion contained 250,000,000 of cocci per cubic centimetre and had been sterilised by repeated heating at 53° C. M. Mauté added that observation of patients treated in this fashion had shown him that the vaccine had an undoubted power in preventing the formation of fresh furuncles.

May 4th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The late Commendatore Bastianelli.

A MAN of light and leading in the hygienic world has been lost to Rome, and, indeed, to Italy, in the Commendatore Giulio Bastianelli, who, as an Italian colleague expresses it, "full of years and honours was gathered up like a ripe sheaf." No professional man was better known in the medical or municipal circles of the Eternal City or more highly esteemed for skill as an expert or for "sense of citizenship." Elected as assessor on the Communal Council, he presided over the department of hygiene, and at once the sanitary conditions, urban and suburban, were subjected to a scrutiny and an amelioration which have made the Rome of the last few decades hardly recognisable in her "change for the better." In 1884, when the "cholera explosion" at Naples numbered nearly 2000 [illegible] Upper [illegible] work, [illegible] ed the subsoil wells of Rome, and not only saved her from an imminent danger but protected her from future visitations. This is but one out of many innovations due to his vigilance and energy—innovations proceeding on lines now skilfully and steadily maintained. His two sons, it may be added, with whom in their great loss the citizens are now sympathising, honourably uphold the paternal name—the elder, Dr. Raffaele Bastianelli, professor of clinical surgery in the Roman school, having already given proof of his ability to perpetuate the traditions of his distinguished predecessors in the chair—Costanzo Mazzoni and Francesco Durante.

The Passing of the Duel.

Italy is now setting herself to a task the initiation of which has been too long delayed—that of abolishing the duel, a "method of barbarism" discredited and disused for more than half a century in the British Isles, but still (strange to say) considered not only right and proper but even "honourable" in a country which prides itself on its abolition of that other form of "capital punishment"—the gallows or the guillotine—by which society protects itself from its worst enemies. His Excellency Signor Orlando, Minister of Grace and Justice, following the lead of Signor Casana, lately Minister of War, and of His Excellency Signor Mirabello, Minister of Marine, is exerting himself in this salutary direction, and it is now but a matter of time—and short at that—when the "mediæval survival" will have gone the way of other practices hardly more unworthy of the twentieth century. [illegible] actively in the [illegible] di Parravicino [illegible] ed by 3500 of [illegible] g him in the action he is about to take in Parliament "contro il duello." Another album, not less numerously and influentially signed by Milanese ladies, with the Contessa Elisa Trivulzio at their head, has been presented to the ex-Minister Casana, and his acknowledgment of the memorial is worth noticing as evidence of the opinion that has long prevailed in military circles against the solution of private quarrels by sabre or pistol. What he calls the "assurda è crudele consuetudine," if discountenanced by the upper classes, will react for good on the lower, where the use of the knife or stiletto is still justified by military or aristocratic precedent. Warfare nowadays by land and sea is far too serious a profession for the quixotic notions of "honour"—often invoked on the idlest pretences—to compromise the lives of men dedicated to their country's service. The personal vanity or susceptibility which, when ruffled, cannot be otherwise placated than by threatening or taking the life of the offender, betrays a weakness, moral as well as intellectual, amounting to disqualification for the strategy that precedes, and the self-command that confronts, the sterner arbitrament of the campaign. With all which reasoning, expressed or implied in Signor Casana's deliverance, Italians are now in full agreement, eager as they are to rid themselves of all relics of that "civilisation" for which they find sufficient condemnation in the comprehensive epithet "mediæval."

May 3rd.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Rare Localisation of Secondary Carcinoma Deposits.

AT a recent meeting of the Medical Society of Vienna Professor H. Schlesinger demonstrated a case of typical neuritis of the inferior dental nerve, owing to a secondary deposit of carcinoma in the lower jaw. The patient, a woman aged 48 years, had had an operation done a year ago for carcinoma of the breast. Now metastatic growths are diffused throughout the body. Some four weeks ago the patient noticed pain in the left lower jaw, and examination now shows complete anæsthesia of the skin of the chin, within a line from the lower angle of the mouth to the margin of the lower jaw. The middle line is the median limit of the anæsthetic area. The lip and the gums are anæsthetic to the same extent. The teeth are not displaced. Similar cases have been observed occasionally, and in four of them Professor Schlesinger was able to confirm the diagnosis of carcinomatous deposits in the lower inferior dental canal by post-mortem examination. This localisation seems to be a typical one, as all cases observed hitherto have been very similar to one another. Three cases have been observed after mammary cancer and one after a prostatic cancer. All the cases showed remarkable identical features as follows. The middle line was always the border of the anæsthetic area, although one would not expect this to be so, owing to the anatomical relations of the nerve. There was always paræsthesia, pain appearing only very late in the course of the disease, although the nerve affected is a purely sensory nerve. There were hardly any motor disturbances in chewing, but morsels of food remained between the jaw and the cheek owing to the absence of sensation in this area.

A Case of Chronic Infantile Polyarthritis.

At the same meeting Dr. Algyogy showed a very rare case of chronic polyarthritis with disturbances of development of the long bones and cervical vertebræ, which had been under observation ever since childhood. The patient, now 20 years old, was affected in her sixth year by an inflammation of all joints except the vertebral joints of the dorsal and lumbar region. There was no fever at that time, but acute pain all over the body. The attacks lasted, with slight interruptions, for three full years. The girl shows an abnormally small degree of bodily development. All long bones, most markedly the bones of the upper extremities, are short but straight. The joints are thickened, the cervical vertebral column is hypoplastic, its motility is diminished, especially for movement backward and towards the right side. Skiagrams show that the inter-vertebral discs are much smaller and thinner than normal, and that there are many exostoses on the ankle joints. The carpal bones are so deformed by exostoses that they cannot be differentiated, and all the bones of the body appear to be atrophic. There seem to be only five cases of this kind on record in literature and in all cases nothing could be done to improve the condition.

Compulsory Gymnastics for School Children.

A circular of the Ministry of Education forwarded to all public and private schools some short time ago deals with the important question of gymnastics for all school children during and between the regular school hours. "The increase of mental work thrown upon the growing body," so says the circular, "necessitates a counterweight in shape of bodily exercise to promote circulation and removal of waste material from the organs." This sensible language is so unusual in our red-tape system that it deserves to be taken notice of. The Minister requires all teachers to institute at least four times per week a regular hour for gymnastic exercises, and as there are between 26 to 30 hours per week of mental work in school, this is not too much. Examinations of school children, conducted by the small number of school doctors at present appointed in this country, have already had the gratifying result of inducing those responsible for the welfare of the growing generation to pay special attention to questions of school hygiene. It has been ascertained that in many cases the mental overstrain had led to anæmia, to scoliosis, and to neuroses such as chorea and anorexia. Girls were found to suffer specially from such conditions, as bodily exercise is still regarded as "improper" for girls in many classes of the population. The modern trend of thought in the bureaucracy is mostly due to medical influence, as various medical men have now an opportunity of putting their up-to-date ideas into force through the medium of the Ministry of the Interior and Education.

The Question of Nurses and Hospital Attendants.

A grave breach of the rules committed by attendants in our largest lunatic asylum has caused much comment and elicited severe criticism of the system in force at the present time. It appears that a man suffering from general paralysis in its turbulent stage became somewhat noisy in the ward at night time, whereupon three attendants tried to quiet him. But their attempts were useless, so they took a wet blanket and wrapped the unhappy man in it, to render him unable to move. During these "attempts" much force and violence seem to have been applied, for the man died a few hours later, before the morning visit of the house physician. A post-mortem examination revealed a recent fracture of the larynx, besides many other injuries. Of course, the attendants were at once handed over to the police and are committed for trial for murder. But the fact that such violence is possible in a public institution has roused the indignation of the public, and in a communication to the press the managing board of the asylum tried to explain matters by stating that the male attendants came from the lower classes of the population. As a fact, the position (and pay) of hospital nurses and attendants for insane persons is generally a bad one. Only quite recently, during the last International Congress on the Care of the Insane, this question was made the subject of various papers and the complaint that the nurses were of very inferior class generally admitted to be justified. Various suggestions to improve matters have failed hitherto. But it is very likely that the above-mentioned grave incident will suffice to awaken the responsible authorities to the necessity for obtaining duly qualified nurses with adequate salaries for the patients. The last point is the *punctum saliens*, for the salary of these people is so poor that nobody is prepared to accept it if he can help it. Including all extras the fixed pay amounts to 15*s.* a week, without board. This is the real explanation of the situation and there is only one measure necessary to obtain good attendants—namely, more pay.

April 28th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The New Sultan and his State of Health.

THRILLING events have occurred here in rapid succession since my last letter. The formidable intrigues of the palace camarilla, the terror of the soldiers' mutiny, preceded the calm, determined, heroic invasion of the Macedonian besieging army. Then came the bombardment and bloodshed, the final deposition of Abdul Hamid, and the enthronement of Reshad Effendi under the name of Mohammed V. At last the grievously tried population of the Ottoman metropolis is able to cheer up and to look into the future with new courage and new confidence. Deep sighs of relief are heard on all sides and at every turn. The old system of tyranny and oppression, of treachery and espionage and murder, of reckless dissipation and desperate cruelty is believed by all to be at an end. The "Red Sultan," for 33 years the dread and scourge of his nation, is exiled to ancient Salonica, which will, in the historic annals of the Ottoman people, be probably regarded as the birth-place of Turkish liberty and the grave of Turkish despotism. Amid all the late events one thing stands out—the admirable behaviour of the army. Resolute and intrepid, they accomplished their end and brought about, without unnecessary bloodshed, a situation which should now develop on uninterrupted and rational lines. The new Sultan is fully cognisant of what he and his people owe to this self sacrificing courage, though he himself does not possess the necessary qualities of a strong monarch The long life of utter seclusion and privation has, it is feared, sapped his energies and reduced his vitality to a deplorable degree To lovers of constitutional government this may seem so much the better for his country and his people, as the parliamentary government of Turkey will henceforward be able to act more freely The new Sultan s health gives cause for anxiety He is said to suffer from Bright's disease and gout I saw him on several occasions and was struck by his extremely sluggish manner of moving and talking His eyes are suffused, his face is puffy and the expression of his look is vague and sad His whole figure, somewhat stoutish and curved speaks of mental and physical suffering He looks his 63 years He is reputed to be of a very kindly disposition and a friend of European civilisation He is fond of the English, writes verses in Persian, and plays the piano with considerable skill In his long seclusion he read many scientific books and frequently also books on matters of medical and surgical interest He is said to be fond of physiological experiments The population received his accession to Othman's thrône with enthusiasm

The Wounded and Dying

The Hamidié Hospital is filled with wounded and dying soldiers officers, and volunteers who fought at the last fierce encounter with the regiments of Abdul Hamid Almost every available place in the hospital is taken and the beds in each pavilion are very close to one another One room is reserved for the severely wounded another for hopeless cases a third for the merely exhausted or those who have sustained but slight injuries Almost all the soldiers have been struck with bullets either in the feet or the legs The officers, however, have wounds in the head and chest The Turks are good patients, they smile in their suffering One of the nurses of the hospital met with a tragic death She was struck by a bullet which traversed the verandah in front of the building and penetrated the pavilion where she was attending to the wounded The hospital Sourp Agop of Pancaldi above Pera has accommodated about 30 soldiers who sustained grave injuries during the fierce assault on the barracks of Taxim and Tash Kizla where a detachment of the deposed Sultan's troops refused to surrender to the besiegers The great hall of this hospital has acquired a historic interest as the national hero, Enver Bey, one of the originators of the constitutional movement, conducted from this place the command of the attack in person

April 30th

NOTES FROM CHINA

(FROM OUR OWN CORRESPONDENT)

Ningpo Mission Hospital

SOME fine records of work are shown in the reports of various mission hospitals and one cannot but be impressed with the wide field there still is in China for surgical and medical research From the twenty second annual report of the above hospital which is supported by the Church Missionary Society and is under the charge of Mr A F Cole, it appears that during 1908 there were 636 in patients, 11,857 out patients and 358 operations Out of 67 operations on the eye 50 were for entropion, a trouble to which the large eyelids of the Chinaman, coupled with the wide spread prevalence of chronic granular conjunctivitis make him specially liable One case is mentioned of bilateral elephantiasis of the vulva and there were three cases of congenital absence of the anus There were also three double amputations for symmetrical gangrene I have referred to the queries received from time to time as to possible openings for medical work in China The following paragraph in the Ningpo Mission Hospital report shows that there is at least one place where help would be welcomed —

' In the early part of the year an attack of blood poisoning contracted whilst operating on a baby with cancrum oris laid me aside for a time and the experience of that time, together with the subsequent weakness made me long for a colleague there would seem very small hope of such a man being sent at present so many places calling for reinforcements The hospital is in possession of an x ray apparatus which has been much in use

Symmetrical Gangrene

In the three cases referred to above Mr Cole could find no demonstrable cause One was a girl aged five years, with gangrene of both feet Another was a man, an actor, aged 35 years, with no history of exposure or syphilis, &c , on whom likewise a double amputation was performed The third case, a boy of 14 years of well to do family and no history of exposure, was the worst His fingers were unaffected but gangrene appeared in both feet, the back of each calf the mid tibial regions, the front of both patellæ, the helix of each ear, the tips of the shoulders and elbows, malar eminences chin and both lips The lower lip separated, as did also the lower portions of the legs leaving the bones exposed necessitating a double amputation Blood films showed a double infection of tertian malaria A good recovery was made which seemed to date from the commencement of quinine There was no hæmoglobinuria or albumin in any form, no evidence of cardiac disease or senile endarteritis, nor a history of diseased grain or ergotism in any of the three cases In Mr Cole s opinion the condition is evidently due to some toxic agent acting directly upon the nerve supply of the arterioles, causing tonic contraction of the arterioles There are vegetable toxic agents in China of which very little is known except that they cause gangrene No suggestion of these could be found in these three cases Dr A A MacFadyen of Su chou fu writing last July to the *China Medical Journal* inclosed specimens of weeds widely used by natives as a vegetable, which are said by them to poison about one out of every 100 that eat them He noted great swelling of the head and hands but no intestinal symptoms They developed high fever and then a superficial gangrene, limited strictly to the exposed parts of the body Under the clothing there is no œdema or gangrene—a fact made more striking by a few cases where the clothes had been worn open and gangrene appeared on the breast to the same extent With regard to Mr Cole s cases I might add that Ningpo is a large town on the banks of a river surrounded by an alluvial plain intersected by canals and irrigating ditches for the cultivation of rice for which the fields are kept flooded from June to the end of October Its temperature ranges from an absolute maximum of 98° to a minimum of 45° F On the whole the foreign population has good health, but the native population suffers much from diarrhœa and dysentery malarial fever being also very prevalent among them

The Leper Home at Tung Kun South China

This institution is under the charge of Dr J J Kuhne, and was established near the site of a Chinese leper settlement which had fallen into a bad state There is an average of 125 inmates During the past year of 38 adult lepers who died 26 were affected with tubercular or skin leprosy, with an average duration of life, after the disease began of 12 years, while that for the 12 others affected with nerve leprosy was 10½ years The fact that leprosy is contagious, but not hereditary, was proved by the Commission in India, and this view is further supported by Dr Kuhne who asked 167 lepers and found that 56 had a clean family history In three cases a great-grandfather was a leper, in another a grandmother in 13 a brother and sister, in five the father or mother in six although the parents were affected it was easy to trace how the disease was communicated The most striking case was that of a leper whose father became infected at 80 years of age, he had lived with his son, who had been ill 12 years without taking any precautions The two drugs which have been found of any service are alphozone and nastin The former is the favourite drug of the lepers and in addition to its value as an intestinal antiseptic in the cases of dyspepsia diarrhœa and dysentery (which are usually of bad omen and a sign that the intestine is affected) it seems also to exert a tonic influence Injections of nastin in cases of nerve leprosy have on the whole effected an improvement though it has not been a uniformly successful drug In several cases the injections were followed by headache and giddiness Leprosy exists all over China not to any great extent in the North but in Central and South China it is frequently met with While lepers in most places are allowed to roam free there are settlements here and there in which they are segregated but never strictly so The native sovereign remedy for the disease consists of the leaves of *Xanthium strumarium* The Chinese describe five different forms of leprosy. In one the skin dies, indicated by loss of sensation; in the second the flesh dies and no pain is felt in cutting it; in the third the blood dies and ulceration and pus are formed; in the fourth the tendons die and hands and feet drop off; in the fifth the bones die, the nose is destroyed, and the eyes, throat, and lips become involved. They ascribe as causes, climate, infection, defective nutrition, and the air of graves. In addition to the Tungkun Hospital there is also a leper asylum supported by the London Missionary Society at Hiao Kau in Central China which has no lack of patients.

The Tainan Hospital.

In the island of Formosa, opposite Amoy, there is an active hospital. The operations performed here during the past six years were 6250, of which 2173 were on the eye, and there were 2400 in-patients last year. Dr. J. L. Maxwell, senior, places a plea for a colleague among the first of his needs; he feels the stress of operation work from 8 to 12 or 1 o'clock daily in addition to the many other duties. Among a series of interesting cases he mentions an instance of the transition from the old to the new ideas attended by serious consequences. In adjoining beds were two patients, one still under the sway of old superstitions and the other prepared for the adoption of new methods. One, the father of the other, had fallen ill and the remedy demanded was human flesh. The dutiful son therefore took a hatchet and chopped off a finger to satisfy his father's needs and came to hospital to have the stump healed.

Peking, April 14th.

Obituary.

THOMAS WILLIAM NUNN, F.R.C.S. ENG.,

CONSULTING SURGEON TO MIDDLESEX HOSPITAL.

Mr. Thomas William Nunn, whose death we announced in a former issue, was born at Royston, Herts, in 1825 of parents belonging to the Society of Friends. He was educated at King's College, London, among a distinguished group of contemporaries, when Fergusson was still a prominent teacher, and Nunn himself took a part in the work of the anatomical department before transferring his energies to the medical school established at Middlesex Hospital, when the famous anatomy school of William and John Hunter in Windmill-street ceased to exist. In 1846 he qualified M.R.C.S. Eng., obtaining his Fellowship 11 years later. Mr. Nunn passed on to the surgical staff and continued in charge of the general wards and those set apart specially for the treatment of cancer till 1879. In an early part of his career he published observations on anatomy, amongst which was a pamphlet illustrating the natural division of main arteries into what he termed segmental and trans-segmental branches for the supply of the proximal and distal segments of the limbs respectively. Later publications were largely on the subject of cancer, in which he took the keenest interest and which he had special opportunities of observing. After retiring from active participation in hospital work, Mr. Nunn, as consulting surgeon, published accounts of 1000 cases from the cancer wards in book form. He was also consulting surgeon to the Central London Throat Hospital and to the London Hospital for Skin Diseases, a past vice-president of the Pathological Society of London, and Medical Associate of King's College, London. Mr. Nunn was at one time a lieutenant of the 3rd Middlesex Militia and honorary surgeon-major (V.D.) of the Volunteer Forces.

As a teacher he was deservedly popular, and his old pupils still refer affectionately to "Tommy Nunn," who lightened their labours with his good humour and facilitated their comprehension of difficult matters by his skill as a draughtsman and frequent colloquial expressions. Eminently practical and always kind, Nunn set a fine example in dealing with patients who were likewise his friends in the days when medical teaching was perhaps less academical than it is to-day. His association with Middlesex Hospital was maintained by his continued attendance at committees and again and again as chairman at convivial gatherings. Perhaps his last prominent appearance was as the central figure in a photograph of the medical staff taken in the hospital garden as recently as the end of 1908. Those who had known him well marked the change which recent years had wrought in him, and though he survived the winter, he suffered in the spring from the prevailing epidemic of influenza, attended chiefly by gastric symptoms, and succumbed to sudden heart failure shortly after removing to his country seat at Kneesworth at the ripe age of 84 years.

Mr. Nunn was twice married, first to Isabella, daughter of Mr. Kenneth Macleay, of Newmore, Ross-shire, and secondly to Rosalie, daughter of Mr. George White, of Kensington, who survives him. He had no children. The interment took place in Royston cemetery on April 19th.

SEPTIMUS GIBBON, M.B. CANTAB., M.R.C.P. LOND.

Dr. Septimus Gibbon, whose death was recently announced, was the son of William Gibbon, a medical man of Kettering, and was born in 1825. He was educated at Cambridge, being a scholar of Clare, whence he graduated M.B. in 1851. From 1851 to 1852 he was resident medical officer to Addenbrooke's Hospital and he became a Member of the Royal College of Physicians of London in 1852. In addition he studied at St. Bartholomew's Hospital, and during the Crimean war he went out with Miss Florence Nightingale and her nurses, being placed in charge of the British hospital at Smyrna. After serving for one year he returned to London and obtained the appointment of assistant physician to the London Hospital. He was also sanitary officer to the Hospital for the Paralysed and Epileptic in Queen-square, and in addition was for nearly 40 years medical officer of health of the Holborn district. At one time he was lecturer on natural philosophy at St. Bartholomew's Hospital and physician to the Royal Insurance Company. He did not write much, but in 1855 he contributed a paper to the *Medical Times and Gazette* on the Complications of Continued Fever. We have said enough to show that this veteran of the profession was a man of wide and varied experience, one of a class which is nowadays getting more and more rare owing to the enormous increase in the detail of every part of medicine, which practically entails that every prominent medical man must be more or less of a specialist.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Ludwig Laqueur, formerly professor of ophthalmology in the University of Strasburg, who was in his seventieth year, having retired some two years ago. He was a pupil of von Gräfe in Berlin and of Liebreich in Paris. For a time he practised in Lyons, where he was lecturer on ophthalmology in the preparatory medical school, but when the Franco-German war broke out he had to serve in the German army. Subsequently he was appointed extraordinary professor in the newly established University of Strasburg, becoming full professor with charge of the eye clinic in 1876. His chief original papers, published mostly in ophthalmological journals, dealt with glaucoma, sympathetic eye affections, refraction anomalies, and the action of atropine and physostigmine.—Surgeon-General Dr. Kaether, the oldest medical officer in the German army, has died at Aix-la-Chapelle, aged 93 years.—Dr. Richard Fleischer, formerly professor of medicine in the University of Erlangen, aged 60 years. He published a good many monographs besides a large text-book on medicine of which some of the volumes have not yet appeared.—Dr. Galvagni, professor of clinical medicine in the Modena Medical School.—Dr. Moissenet, formerly physician to the Paris hospitals.—Dr. Maurice, formerly physician to the Versailles Hospital.

ULSTER HOSPITAL FOR CHILDREN AND WOMEN.—At the annual meeting, held on April 23rd, of the supporters of this institution it was reported that during the year 1908 284 children and 102 women were treated as in-patients, while in the extern department there were 726 women and 2312 children (including 412 eye cases). There were ten intern maternity cases and 257 extern. Help in the form of food, medicine, or clothing was afforded to 30 of the maternity cases. Financially, the income was £1175 2*s.* 9*d.* (exclusive of a bequest invested of £1296 17*s.*), while the expenditure was £1133 1*s.* 2*d.*, leaving a credit balance of £42 1*s.* 7*d.* A sum of £5774 7*s.* has been promised for rebuilding the hospital, but it has been wisely decided not to undertake the work until the amount reaches at least £10,000.

Medical News.

CAMBRIDGE UNIVERSITY.—The following degrees were conferred on April 29th:—

M.D.—A. W. Wakefield, Trinity; S. Gooding, St. John's; E. E. Glynn, Clare; W. F. Buckle, Gonville and Caius; and R. A. Clapham, Emmanuel.
M.B., B.C.—M. W. B. Oliver, Trinity.
B.C.—A. W. D. Firth, Trinity.

Professor Sims Woodhead has been re-appointed the representative of the University on the Council of the Lister Institute of Preventive Medicine.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Justus Bödeker, *privat-docent* of Psychiatry, has been granted the title of Professor.—*Breslau:* An Otological Clinic has just been established with 24 beds and a lecture theatre capable of accommodating 60 students. This is the third university otological clinic established in Prussia.—*Cologne* (*Medical Academy*): Dr. Franz Dautwiz, senior staff surgeon in the Prussian army and lecturer in medicine, also Dr. Dreesmann, surgeon to the St. Vincent Hospital, have been granted the title of Professor.—*Gottingen:* Dr. Max Voit of Freiburg has been recognised as *privat-docent* of Anatomy.—*Gratz:* Dr. Walter Schauenstein has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Heidelberg:* Dr. Knauff, Professor of Hygiene and Forensic Medicine, will retire at the end of the current session.—*Jena:* Dr. Hermann Dürck of Munich has been appointed Professor of Pathological Anatomy in succession to Professor M. W. Mullen, resigned.—*Kiel:* The honorary Doctorate of Medicine has been conferred on Professor Johanna Mestorf, the venerable lady director of the Schleswig-Holstein Antiquarian Museum, in consideration of her valuable prehistoric anthropological researches. She is retiring from the post she has held for very many years on her eightieth birthday.—*Lemberg:* Dr. Wilold [illegible] *docent* of Pathological [illegible] fessor of Forensic [illegible] of the kingdom of Italy.—*Vienna:* Dr. Egon Ranzi has been recognised as *privat-docent* of Surgery.

UNIVERSITY OF OXFORD.—The following dates of examinations have been announced:—Examination for M.Ch. Degree: The examination for the Degree of Master in Surgery will commence at 10 A.M. in the medical department at the museum an Thursday, June 24th. Names must be sent in to the assistant registrar at the University Registry not later than 10.30 A.M. on Friday, June 4th. The statutable fee (£5) and the required certificates must be given in at the same time. Examination for the D.P.H.: The [illegible] at separate examinations, but no one will be deemed to have [illegible] Part II. unless he has satisfied the [illegible] Part I. The fee for each part [illegible] and fees must be sent in not [illegible] day, Oct. 26th, to the assistant registrar, from whom all particulars can be obtained.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—The Incorporated School of Tropical Medicine gives instruction in tropical medicine for the diploma in that subject which is granted by the University of Liverpool, and the period of instruction lasts for three months. Two of these courses are given in the year, the one from Jan. 6th to April 5th, and the other from Sept. 15th to Dec. 13th. In the summer there is held the short course which lasts from June 1st to June 30th. At the end of this short course an examination is held and a certificate of satisfactory attendance is granted to those who pass the examination. This certificate excuses holders from attendance during the first four weeks of the full Lent and autumn courses, one of which is necessary for the diploma. The short course has been specially designed for those medical men who are at home on leave and who have not the time to attend the full course for the diploma. It consists entirely of practical and clinical laboratory work given at the University laboratory and at the Royal Southern Hospital. During this short course the instruction on parasitology will be given by Dr. J. W. W. Stephens and that on medical entomology by Mr. Robert Newstead. The course also includes instruction in the microscopic diagnosis of malaria. The fee for the course is 4 guineas, and applications to attend it are to be sent to the Dean of the Medical Faculty, University of Liverpool. The fee must be paid in advance to the secretary of the school, B 10, Exchange Buildings, Liverpool.

UNIVERSITY OF LONDON.—A course of eight lectures on the "Structure and Functions of the Central Nervous System" will be given in the Physiological Institute of University College by Dr. W. Page May on Tuesdays at 5 P.M., beginning on Tuesday, May 11th. These lectures are open to all students of the University of London, also to qualified medical men on presentation of their cards.

THE GLASGOW UNIVERSITY CLUB, LONDON.—The members of this club will dine at the Trocadéro Restaurant on May 25th at 7.30 P.M. The Right Hon. Alexander Ure, K.C., M.P., Lord Advocate, will take the chair. Members who intend to be present or to introduce guests are requested to give notice as early as possible to Mr. W. Craig Henderson, 2, Paper-buildings, Temple, London, E.C.

THE annual meeting of the Children's Country Holidays Fund will be held at the Whitehall Rooms, Hotel Metropole, on Tuesday, May 18th, at 4.30. H.R.H. the Duchess of Albany will preside. The speakers will include the Right Hon. the Earl of Erroll, the Right Hon. Herbert Samuel, M.P., the Lord Bishop of Stepney, and Mrs. Scharlieb, M.D.

ROYAL SANITARY INSTITUTE. — A provincial sessional meeting of the Institute will be held at the Council Chamber, Guildhall, Norwich, on Saturday, May 22nd, at 11 A.M., when a discussion will take place on the Special Features of the Travis Hydrolytic Systems of Sewage Tanks Constructed for Norwich. The discussion will be opened by Mr. Arthur E. Collins, M.Inst.C.E., city engineer, Norwich. The chair will be taken at 11 A.M. by Mr. H. D. Searles Wood, F.R.I.B.A., chairman of the council of the Institute.

CHELSEA HOSPITAL FOR WOMEN.—By the kind permission of Mary Countess of Ilchester, a concert in aid of the Chelsea Hospital for Women will be held in the Garden Ball Room at Holland House, Kensington, on Friday, June 11th, at 3 P.M., when the gardens at Holland House will be thrown open to the audience. Tickets, price 21*s.* and 10*s.* 6*d.*, can be obtained from the Countess of Ilchester, Holland House, Kensington, W., the Viscountess Esher, 2, Tilney-street, W., Mrs. Fenton, 27, George-street, Hanover-square, W., and the secretary, Chelsea Hospital for Women, Fulham-road, S.W.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the Council held on May 4th the following examiners were elected for the ensuing year:—*Court A.*—For Conjoint Licence, Diploma in Public Health, and *Preliminary*—Anatomy: Alexander Fraser and Bertram C. A. Windle. Surgery: Charles A. K. Ball, Alexander Blaney, F. Conway-Dwyer, and Robert J. Harvey. Physiology and Histology: Denis J. Coffey and E. L'Estrange Ledwich. Pathology and Bacteriology: Arthur Hamilton White. Midwifery and Gynæcology: Frederic W. Kidd. Biology: John J. Burgess. Ophthalmology: Arthur H. Benson, Herbert H. B. Cunningham, and Herbert C. Mooney. Sanitary Law and Vital Statistics: Matthew J. Russell. Engineering and Architecture: James H. Fergusson. Languages: William Kennedy. Mathematics, Physics, Dictation, and English Essay: J. W. Tristram. *Court B.* — Fellowship, Licence in Surgery (for registered practitioners), Licence in Midwifery (for registered practitioners), and Licence in Dental Surgery—Anatomy: Alexander Fraser and Edward P. McLoughlin. Surgery: Charle[illegible] F. Conway-Dwyer, and Le[illegible] Histology: Denis J. Coffey [illegible] Pathology and Bacteriolog[illegible] r Hamilton White. Midwif[illegible] W. Kidd. Chemistry and [illegible] Robert J. Montgomery. [illegible] y: George

M. P. Murray and William 'G. Story. Mechanical Dentistry: Daniel L. Rogers and Edward L. Sheridan.

The King has sent a present of linen to the Chelsea Hospital for Women.

A Dorset Centenarian.—William Butler of Newtown, Branksome, has recently completed his hundredth year.

The German Society of Orthopædic Surgery has elected Professor Joachimsthal as president during the coming year, and the German Surgical Society has elected Professor Bier of Berlin as its next president.

Mr. Frederick Weatherly, M.R.C.S. Eng., L.S.A., J.P., of Portishead, Somerset, who has entered his ninetieth year, has just resigned the position of chairman of the Long Ashton board of guardians. Mr. Weatherly was coöpted as second vice-chairman.

Donations and Bequests.—The Brompton Hospital for Consumption has received from Washington cheques for $1000 (£200) and $500 (£100), representing the prizes awarded to the hospital and the Frimley Sanatorium at the recent International Tuberculosis Congress.—Mr. John Coles of Tiverton has given another £1000 to the funds of the Tiverton (Devon) Infirmary.

London School of Tropical Medicine.—The number of students desirous of taking out the course at the London School of Tropical Medicine has increased so rapidly that the accommodation of the school has been strained to its limits, and the committee regrets that it is unable to accept any further students for the present course, though in special cases application may be made to the director in case a vacancy has occurred. There is still room for students who desire to take out the advanced courses. The next session will commence on Oct. 1st.

Midwives Act Committee. — The eleventh meeting of the Departmental Committee appointed by the Lord President of the Council to consider the working of the Midwives Act was held at the Privy Council Office on May 5th, Mr. Almeric W. FitzRoy, the clerk of the Council, presiding. Evidence was tendered on behalf of the British Medical Association by the following witnesses: Mr. J. Smith Whitaker, medical secretary of the Association; Mr. C. E. S. Flemming, Bradford-on-Avon; Dr. L. S. McManus, Wandsworth; and Dr. J. H. Taylor, Salford.

Poor-law Medical Officers' Association of England and Wales.—The annual general meeting of this association is to take place this year on July 6th at the Guildhall, London, and a conference will there be opened on the Report of the Royal Commission with regard to Poor-law Medical Relief. The Lord Mayor has promised to open this conference at 11 A.M. in the Council Chamber of the Guildhall. All Poor-law medical officers in England and Wales are invited to attend and any desiring to read papers at the conference should send abstracts of such papers to the honorary secretary of the association, Dr. M. Greenwood, 243, Hackney-road, London, N.E.

The Notification of Glanders: An Exemplary Penalty.—According to a *Times* report, on May 3rd Sir A. De Rutzen at Bow-street police court completed the hearing of nine summonses against the London Parcels Delivery Company, Limited, and their superintendent, George Clawpett, charging the company with contravening the Notification of Glanders Order, 1907, by failing to give notice to the local authority or the police of the presence of one diseased and eight "suspected" horses in certain of their stables. In our issue of March 13th we reported an inquest on the body of Charles Edward Davis, a horsekeeper, who was found to have died in St. Thomas's Hospital from glanders. This man had been employed by the defendants, and in the present prosecution it was given in evidence that since his death all their horses have been examined and 200 slaughtered. The defence raised was the difficulty of diagnosing the disease in animals not suspected of it, several veterinary surgeons deposing that a horse which reacted to mallein might work for several years and never show any signs of glanders. The magistrate held the defendants to blame in not having called in veterinary aid sooner than they did, and fined each defendant the maximum penalty of £20 on four of the summonses and 1*s.* each on the other five, a total of £80 5*s.*; and he ordered the company to pay £26 5*s.* costs. There is little doubt that this salutary judgment was based on the unfortunate death due to the outbreak. It should serve to bring home to the owners of stables the dangers of disobeying an order framed in the necessary interests of public protection.

Royal Institution.—The annual meeting of the members of the Royal Institution was held on May 1st, Sir James Crichton-Browne, treasurer and vice-president, being in the chair. The annual report of the committee of visitors for the year 1908, testifying to the continued prosperity of the institution, was read and adopted, and the report on the Davy Faraday Research Laboratory of the Royal Institution, which accompanied it, was also read. 48 new members were elected and 63 lectures and 19 evening discourses were delivered in 1908. 936 volumes were added to the library in the year. The following gentlemen were unanimously elected as officers for the ensuing year: President, the Duke of Northumberland. Treasurer, Sir James Crichton-Browne. Secretary, Sir William Crookes. Amongst the managers elected were Sir Thomas Barlow, Bart., Dr. Donald William Charles Hood, Sir Francis Laking, Bart., and the Right Hon. Sir John Fletcher Moulton; and amongst the visitors Dr. William Arthur Brailey, Dr. James Mackenzie Davidson, Mr. John William Gordon, Dr. James Dundas Grant, Sir Philip Magnus, and the Hon. Charles A. Parsons.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Budget.

The Budget, which was brought in by the Chancellor of the Exchequer on Thursday, April 29th, engrosses the attention of Parliament. Its readjustment of the scheme of taxation proceeds on lines which must necessarily cause considerable controversy. In fact, it promises to be the great dominating issue of the session. There are proposals in the Budget with regard to the death duties, stamps, licence duties, and the taxation of land which will undoubtedly receive a very critical and prolonged examination from the Opposition. To professional men one of the most vital parts of a Budget is the income-tax. This year a further step in the direction of graduation and differentiation is taken. The rates upon the earned income of persons whose total income does not exceed £3000 are to remain at 9*d.* in the £ up to £2000, but are to be 1*s.* in the £ for the amount between £2000 and £3000. Large incomes and unearned incomes, which have been paying 1*s.* in the £, will have to pay 1*s.* 2*d.* in the £. A super tax of 6*d.* in the £ comes into operation in the case of incomes exceeding £5000, but in this case an abatement on £3000 will be allowed. One of the proposals of Mr. Lloyd George in regard to the income-tax at least will enjoy a wide measure of popularity. A person whose income does not exceed £500 is to be permitted a special abatement of £10 in his assessed income for each child he has under the age of 16 years. In one part of his Budget the Chancellor of the Exchequer makes a differentiation for medical men. He proposes a new tax on motor-cars, but medical men are only to pay half the tax that other possessors of cars are to be called upon to contribute. The motor-car tax is to be graduated according to the horse power of the vehicle. The tax on cars under 6½-horse power is placed at 2 guineas. Cars of 26-horse power are charged 6 guineas, but the tax rapidly rises on vehicles of the highest power. A 60-horse power vehicle will pay 20 guineas, but a car over that power will have a charge of 40 guineas placed on it. Funds derived from this source will go to the improvement of roads.

Accidents in Mines.

An interesting discussion arose on the subject of accidents in mines in the House of Commons on April 28th. Mr. Glover brought forward a demand that the staff of mine inspectors should be augmented to secure the more rigorous application of the laws affecting mining. The reply of Mr. Herbert Samuel, who spoke for the Home Office, was deemed so satisfactory that no division was taken on the subject. The gist of it was that if the Royal Commission on Mines reported in favour of an increase of the staff of inspectors the Home Secretary would have no hesitation in pressing on the Treasury the necessities of the situation. In the course of his speech Mr. Samuel pointed out that in France and in Belgium the percentage of deaths in mines was slightly less than in this country, and further expressed the belief that the irreducible minimum of fatal accidents had not been reached here.

Medical Officers of Health.

Mr. Bowerman's Bill relating to housing of the working classes contains a clause dealing with the position of county medical officers of health. It lays down that every county council shall appoint a medical officer of health, that he shall only be removable from office with the consent of the Local Government Board, that he shall not be appointed for a limited time only, and that he shall not engage in private practice nor hold any other public appointment without the express written consent of the Local Government Board.

Street Accidents in Scotland.

At the instance of the Lord Advocate a return has been ordered by the House of Commons showing for Scotland the number of accidents resulting in death or personal injury known to the police to have been caused in streets, roads, or public places by vehicles during the year ended Dec. 31st, 1908. A somewhat similar return is being compiled for England and Wales under the supervision of the Home Office.

The Royal Commission on the Poor-laws.

Amongst the papers just issued by the Royal Commission on the Poor-laws is one on the overlapping of the work of voluntary general hospitals with that of medical relief. The report on Ireland has also been published. The literature on the relief of distress which has been compiled at the instance of the Commission is becoming most voluminous. Even those Members of Parliament who devote most attention to the topics which the Commission investigated have difficulty in keeping themselves informed of the main features of these reports. There is no likelihood that legislation will be brought forward in respect to the Poor-laws and the relief of distress until next year. Time will thus be given to Members interested to master the facts set forth in the documents published by the Commission.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 28TH.

Consumptive Passengers on Board Ship.

Mr. [illegible] Trade whether he was aware [illegible] Montreal and Quebec for Glasgo[illegible] the second class several person [illegible] seeing [illegible] companies that in [illegible] deck cabins only [illegible] infection was possi[illegible] isolated?

Mr. TENNANT: That is not in accordance with our information, but I will make further inquiry.

The Royal Commission on Sewage Disposal.

Mr. CARLILE asked the [illegible]

The Poor-law Commission in Scotland.

Mr. GULLAND asked the Prime Minister when the report of the Poor-law Commission dealing with Scotland would be issued.—Mr. ASQUITH answered: I am not in a position at this moment to give any definite information.

Malta Fever amongst the Civil Population.

Mr. LUPTON asked the Under Secretary of State for the Colonies what was the number of cases of Malta fever, and also of simple continued fever, which had occurred among the civil population of Malta during each of the years from 1897 to 1908 inclusive.—Colonel SEELY furnished the following written reply: The number of cases of Mediterranean fever and of simple continued fever in the years mentioned is as follows:—

Year.	Mediterranean fever.	Simple continued fever.
1897	568	107
1898	510	125
1899	822	114
1900	642	80
1901	624	60
1902-3 (financial year) ..	589	66
1903-4 " " ...	573	35
1904-5 " " ...	663	26
1905-6 " " ...	822	22
1906-7 " " ...	714	42
1907-8 " " ...	501	5
1908-9 " " ...	463	11

THURSDAY, APRIL 29TH.

Poor-law Medical Officers in Scotland.

Mr. CATHCART WASON asked the Lord Advocate whether he would state what parish councils in Scotland had opposed granting to Poor-law medical officers protection against arbitrary dismissal, and also the same privileges as were enjoyed by medical officers in England and Ireland.—Mr. URE furnished the following written reply: The proposal has not, so far as I am aware, reached a stage which has provoked the active expression of opinion on the part of parish councils. On this point I can add nothing to the reply recently given to my honourable friend.

Mr. WASON also asked [illegible] position.—Mr. URE answered: I am not aware of [illegible] benefit the poor.

Beri-Beri amongst Lascars.

Mr. COOPER asked the President of the Board of Trade [illegible]

MONDAY, MAY 3RD.

The Pollution of Rivers by Trade Effluents

Mr. CLOUGH asked the President of the Local Government Board [illegible] he would introduce legislation [illegible]

TUESDAY, MAY 4TH.

Small-pox in Bristol.

[illegible] years but I am unable to say from what source the lymph used was obtained.

Mr. LUPTON also asked the right honourable gentleman whether during the late outbreak of small-pox in Bristol the many unvaccinated children in the city showed any special liability to take the disease.—Mr. BURNS answered: Any comparison between vaccinated and un[illegible]

The Reports of the Poor-law Commission.

Sir WILLIAM BULL asked the President of the Local Government Board whether he was, or contemplated, carrying into effect administratively any, and, if so, what, recommendations of either of the reports of the Poor-law Commission.—Mr. BURNS answered: I am not able to give a definite reply to this question at present, but the matter to which it relates is receiving my attention.

The Death-rate in the Transvaal Mines.

Mr. FELL asked the Under Secretary of State for the Colonies [illegible] increase.

WEDNESDAY, MAY 5TH.

Seizure of Meat at Hull.

Mr. FFRENCH asked the President of the Local Government Board whether he was aware that the inspectors at Hull found during the last quarter large numbers of livers infected with parasites, such as immature tapeworms and flukes; whether out of ten plucks from Rotterdam six livers were seized in one ship, and six out of a consignment of 20 in another ship; whether in addition seven pig livers, one pig pluck, and calf liver were destroyed as unfit for human [illegible] cerned.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, London.

Lectures on Diseases of Children. By Robert Hutchison, M.D., F.R.C.P. Second edition, revised and enlarged. Price 8*s.* 6*d.* net.

BAILLIÈRE, TINDALL, AND COX, London.

A Text-book of Diseases of the Ear. By Professor Dr. Adam Politzer. Translated at the personal request of the Author, and edited by Milton J. Ballin, Ph.B., M.D., and Clarence L. Heller, M.D. Fifth edition, revised and enlarged. Price 25*s.* net.

Aids to Forensic Medicine and Toxicology. By William Murrell, M.D., F.R.C.P. Seventh edition. Sixteenth thousand. Price, paper, 2*s.* net; cloth, 2*s.* 6*d.* net.

CHURCHILL, J. AND A., London.

Southall's Organic Materia Medica. By John Barclay, B.Sc. Lond., F.C.S. Seventh edition. Revised and enlarged by Ernest W. Mann, Pharmaceutical Chemist. Price 7*s.* 6*d.* net.

A Text-book of Materia Medica. By Henry G. Greenish, F.I.C., F.L.S. Second edition. Price 15*s.* net.

FIFIELD, A. C., London.

Wastage of Child Life as Exemplified by Conditions in Lancashire. By J. Johnston, M.D. Edin. The Fabian Socialist Series, No. 7. Price 1*s.* net.

HARPER AND BROTHERS, London and New York.

The Ether of Space. By Sir Oliver Lodge, F.R.S. Price, cloth, 2*s.* 6*d.* net; leather, 3*s.* 6*d.* net.

HIRSCHWALD, AUGUST, Berlin.

Grundriss der [illegible] med. Georg Klemperer. [illegible] Price M.4.

Zwei Schlussjah [illegible] Von Prof. Dr. Ernst Kuster. Price M.12.

KARGER, S., Berlin.

Uber die Struktur und die Pathogenese der Gallensteine. Von Dr. med. J. Boysen. Mit einem Vorwort von Prof. Dr. Th. Rovsing. Price M.4.

Über die Entstehung und Verbreitung der Tuberkulose im weiblichen Genitaltrakte. Von Dr. Albert Blau. Price M.4.

Uber die Behandlung der Geburten bei engen Becken. Von Dr. E. Scipiades. Price M.7.

MILLS AND BOON, LIMITED, London.

Holborn Hill. A Story of Nelson's Day. By Christian Tearle. Price 6*s.*

NISBET, JAMES, AND CO., LIMITED, London.

The Operative Treatment of Chronic Constipation. By W. Arbuthnot Lane, M.S., F.R.C.S. Price 2*s.* 6*d.* net.

REINHARDT, ERNST, Munchen.

Blutungen und Ausfluss aus dem Uterus, ihre Ursachen und Behandlung. Von Hofrat Dr. A. Theilhaber. Price M.2.50.

SPRINGER, JULIUS, Berlin.

Moritz Schmidt. Die Krankheiten [illegible] Aus der Praxis fur die Praxis. Vierte, [illegible] Von Professor Dr. Edmund Meyer. [illegible]

STONE AND COX, London.

The "Omnicert." Price not stated.

TAYLOR AND CARPENTER, Ithaca, N.Y., U.S.A.

Pure Milk and the Public Health. A Manual of Milk and Dairy Inspection. By Archibald Robinson Ward, B.S.A., D.V.M. With two Chapters by Myer Edward Jaffa, M.S. Price $2.00 net, postpaid.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing [illegible] *for this column, are invited to forward to* [illegible] *directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ADAMS, C. E., M.B. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Loughton District of the county of Essex.

BEVIR, GEORGE, L.R.C.P. Lond., M.R.C.S., has been appointed *pro tem.* Medical Officer for the Timsbury District by the Clutton (Somerset) Board of Guardians.

BLACK, LEWIS POTTER, M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., D.P.H. Lond., has been appointed Medical Officer of Health for the St. Thomas Rural District Council (Devon).

CHISOLM, R. A., M.B. Oxon., M.R.C.P. Lond., has been appointed Greville Cancer Research Student at Guy's Hospital.

COLLINS, JOHN RUPERT, M.D., B.Ch., B.A.O. Dub., has been appointed Honorary Pathologist to the Cheltenham General Hospital and Dispensary.

CRISP, JAMES ELLIS, M.R.C.S., L.S.A., has been appointed Medical Officer for the Lacock District by the Chippenham (Wilts) Board of Guardians for one year.

DOWDING, E. F. C., M.R.C.S., L.R.C.P. Lond., has been appointed [illegible] under the Factory and Workshop Act for the [illegible] of the county of Northampton.

[illegible] & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Portree District of the county of Inverness.

GIBBS, STANLEY RIDER, L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer by the Barnstaple (Devon) Board of Guardians.

HINGSTON, CHARLES ALBERT, M.D., B.Sc. Lond., M.R.C.S., has been appointed Honorary Consulting Physician to the Crownhill Convalescent Home, near Plymouth.

PIKE, NORMAN HOWARD, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Surgeon for the Eye, Ear, and Throat Department of the Cheltenham Gene[illegible]

PRITCHETT, GEORGE WILLIAM MORRIS, [illegible] been appointed District Medical Offi[illegible] Board of Guardians.

SHEARER, ALFRED, M.B., Ch.B. Edin., has been appointed District Medical Officer by the Newton and Llanidloes (Montgomeryshire) Board of Guardians.

SHINGLETON-SMITH, LIONEL, M.B., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Brecknock Union (Brecon) Workhouse.

SHORTEN, W. J., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Duncannon District of the county of Waterford.

SOLTAU, ALFRED BERTRAM, M.D. Lond., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Physician to the Crownhill Convalescent Home, near Plymouth.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (*see Index*).

ASHTON-UNDER-LYNE, DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Assistant House Surgeon. Salary £90 per annum, with board, &c.

BARNSLEY, BECKETT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and lodging.

BIRKENHEAD UNION INFIRMARY AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM GENERAL DISPENSARY.—Res[illegible] Salary £170 per annum, with rooms, fire

BIRMINGHAM AND MIDLAND HOSPITAL [illegible] DISEASES, John Bright-street, Birmingham.—Clinical Assistant. Salary at rate of 52 guineas per annum.

BRIGHTON, HOVE, and PRESTON DISPENSARY.—House Surgeon, unmarried. Salary £130 per annum, with board and residence.

BURY INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, and attendance.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Surgeon, also Assistant House Surgeon, both unmarried. Salaries £80 and £60 per annum respectively, with board and lodging.

CATERHAM ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with board, apartments, and laundry.

CHICHESTER, WEST SUSSEX COUNTY ASYLUM AND GRAYLINGWELL MENTAL HOSPITAL.—Locum Tenens for 16 weeks. Salary 3 guineas a week, with full board, rooms, attendance, &c.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Clinical Assistant.

CORPORATION OF LONDON, PUBLIC HEALTH DEPARTMENT.—Sanitary Inspector (female). Salary £120 per annum, rising to £200.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with residence, board, and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Physician. Salary at rate of £60 per annum, with board, residence, and washing.

GATESHEAD DISPENSARY.—Assistant Medical Officer. Salary £200 per annum.

HARTLEPOOLS HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and lodging.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Salary £25.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £30, with board and residence.

HUDDERSFIELD INFIRMARY.—House Surgeon. Also Junior House Surgeon. Salaries £100 and £80 per annum respectively, with board, lodging, and washing.

IPSWICH, EAST SUFFOLK AND IPSWICH HOSPITAL.—Senior House Surgeon. Also Two House Surgeons. Salary of former £80 per annum and of two latter £65 per annum.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, &c.

LONDON SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter-street, Brunswick-square, W.C.—Demonstrator in Anatomy and Curator of the School Museum (females).

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Third and Fourth House Surgeons for six months. Salary £25, with board and residence

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and laundry

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Junior Resident Medical Officer. Salary £50 per annum, with board and residence.

NEWCASTLE-UPON-TYNE CITY LUNATIC ASYLUM, Gosforth.—Second Assistant Medical Officer, unmarried. Salary £140 per annum, with apartments, board, and laundry.

NOTTINGHAM GENERAL HOSPITAL.—Locum Tenens for three and a half months. Salary £45, with board, lodging, and washing.

REDHILL, EARLSWOOD ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £130, rising to £150 per annum, with board, lodging, washing, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Hunterian Professors and Arris and Gale Lecturer for the ensuing year.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Third House Surgeon. Salary at rate of £50 per annum, with board and residence.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, West Brompton, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, and washing.

SHEFFIELD, ROYAL INFIRMARY.—Honorary Ophthalmic Surgeon.

STOCKTON AND THORNABY HOSPITAL, Stockton-on-Tees.—House Surgeon, unmarried. Salary £160 per annum, with residence, board, and washing.

SUFFOLK DISTRICT ASYLUM, Melton.—Second Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, attendance, and laundry.

TUNBRIDGE WELLS GENERAL HOSPITAL.—Junior Resident Medical Officer, unmarried. Salary £80 per annum, with board, apartments, &c.

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board, and service.

WALLINGFORD, BERKS COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £140 per annum, with board, apartments, attendance, &c.

SARY.—Senior House Surgeon, ry of former £120 and of latter

YLUM, Winwick.—Locum Tenens 4 guineas per week, with apartments, board, &c.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House with board, residence,

W.—House Physician provided.

COMMITTEE.—Senior Children. Salary of ling expenses in each case.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Also Two House Surgeons. Salary of former £100 per annum, and of two latter £50 per annum, with board, lodging, and laundry.

THE gives notice of and Workshop at Grassington, unty of Sussex;

Births, Marriages, and Deaths.

BIRTHS.

CARTER.—On April 29th, at Edgar-buildings, Bath, the wife of Stuart

t, W., to Mr. and

wife of Captain

ead, the wife of daughter.

MARRIAGES.

CLA

Sheffield.

J. Brooke Hunt, Woodford, Essex.

PARROTT—FIRMINGER.—On April 29th, at All Saints' Church, Upper Norwood, Hugh McDowall Parrott, M.B., B.S.Lond., to Ruth,

Willesden, by he Rev. R. J. eys, M.A., the E., to Frances est daughter of

DEATHS.

BLANSHARD.—On March 13th, at Killarney, Queensland, George Easingwood Blanshard, L.R.C.P. & S. Edin., third son of the late George Blanshard, Edinburgh, aged 49 years.

CLIFTON.—On April 27th, at Fordingbridge, James Clifton, M.R.C.S., L.S.A.

KYNSEY.—C Herbert Arthur

MILLER.—A on the 28th April, Miller, M.D., eldest surviving son of the late John Miller, Beith, aged 51 years.

RAMSAY.—On April 29th, at Cotswold Sanatorium, Herbert Murray Ramsay, F.R.C.S., aged 45 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE CHILDREN ACT AND PUBLIC HOUSES.

ACTS of Parliament frequently produce results in directions quite unexpected. It would be impossible to quarrel with the motive of Section 120 of the Children Act, which seeks to exclude children under 14 years of age from the interiors of public-houses. But if references, serious and humorous alike, which we have read in the daily press have any foundation, it has been pitiable recently to see crowds of children left standing outside the public houses in the bitter evening winds, while their parents and guardians were regaling themselves in the warm bar. It is claimed that the new Act will protect children, among other evils, from undue exposure to night air, but this loitering of children outside public-houses will do much to counteract any such tendency for good. In country places where space is available the matter can, no doubt, be gradually dealt with by the provision of proper outside shelters, and this point can probably be safely left in the hands of the licensing justices, for it is evident from questions asked of the Home Secretary in the House of Commons that the justices are in general disposed to require alteration in construction of licensed premises to meet the requirements of this Act. Unless some movement is made in this direction, the exposure of children, thus hanging motionless about street corners, must be very prejudicial to general health. Further, the licensing authorities would do well to consider the provision of proper sanitary accommodation suitable for children of either sex, in view of the probability of crowds of children being thus detained for perhaps long periods of time, otherwise unpleasant violations of public decency must occur, as much of the existing accommodation in public-houses would not be accessible to children under the requirements of the Act.

A CURIOUS CAUSE OF FOOT SORENESS.

To the Editor of THE LANCET.

SIR,—The following case may be of interest as showing an unsuspected cause of "sore feet." A woman of 40 complained of heat and soreness of the soles of the feet. Her occupation compelled her to be on her feet the greater part of a 16-hour day, and she noticed that towards evening the pads of the soles under the toes became acutely painful and hot. Along the line of greatest friction and pressure was a layer of indurated skin, the soft pads above being very sore and hot, causing a sensation as though spicules of glass were imbedded in it. On careful examination numerous worsted hairs were found projecting from the skin, requiring the patient use of fine forceps for their withdrawal. *The removal of these hairs and a change to cotton stockings* removed a cause of lameness and fatigue which had existed for years

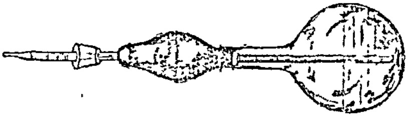
I am, Sir, yours faithfully,

LÆTITIA H. ANDREW-BIRD, L.R.C.P. Irel.

De Beauvoir-road, N., May 1st, 1909.

AN AMPOULE FILLER.

IN THE LANCET of March 27th we printed a note on the advantages and method of using ampoules. Messrs. Chas Zimmermann and Co. have forwarded to us a short account of an ingenious appliance by which these glass receptacles may be filled with a sterilised fluid. The *contrivance is known as the Elias Fountain Bulb. It consists mainly* of an elastic bulb connected with a tight-fitting central glass tube forming a cap or stopper. The lower part of the bulb (which fits to the neck of the bottle or flask) is provided with air channels or perforations communicating with the interior of the vessel, so as to exert pressure on the liquid therein when the bulb is squeezed by the hand. The dispenser sterilises the liquid to be ampouled in a flask or other convenient vessel, and by pressing the rubber bulb the liquid contained in the flask may be forced through the glass tube directly into the ampoule without fear of contamination.



THE EMMANUEL MOVEMENT IN AMERICA.

To the Editor of THE LANCET.

SIR,—During a brief stay in London the writer has become aware of a certain confusion existing in the minds of people between the Emmanuel movement in America and what is known as the Emmanuel Society, the methods and aims of which respectively are quite distinct.

It should be clearly understood that the Emmanuel movement in America, which began three years ago under the leadership of Dr. E. Good Worcester, rector of Emmanuel Church, Boston, in coöperation with some of the leading neurologists of that city, is not a faith healing movement as that phrase is commonly understood. It does not undertake the cure of any and all diseases, but only those of a nervous or functional character. In this specialising of its efforts to alleviate suffering it is not limiting the power of God, but attempts the humbler task of learning His will as embodied in the ascertained facts known to medical science as the laws of health and disease.

Hence it does not act independently of, but in constant reliance upon and coöperation with, medical men. No case is taken for treatment unless first diagnosed by a competent physician, preferably a neurologist, who recommends it as likely to yield to the psychical and religious methods employed by the clergymen engaged in the work.

With few exceptions, the leading physicians everywhere in America have welcomed this movement and given it their warmest support. No fees are charged by the clergy, who feel amply rewarded in the larger opportunity for service to their kind, and especially in the reconstruction of moral and spiritual character which the treatment almost invariably effects.

I am, Sir, yours faithfully,
ALBERT B. SHIELDS, A.M. Harvard,
Superintendent and Chaplain of St. Luke's Hospital,
San Francisco, Cal., U.S.A.

WANTED, A HOME.

To the Editor of THE LANCET.

SIR,—Can any of your readers tell me of an institution into which a woman, practically helpless from a paralytic seizure, aged 62 years, can be permanently received? She has 10*s.* a week, which represents the extent to which she could contribute towards her maintenance. I am, Sir, yours faithfully,

(MRS.) M. FIRTH.

8, Church-circle, S. Farnborough, Hants, April 27th, 1909.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—Herbert F. Waterhouse, Walter G. Spencer): at 5.30 P.M.

Papers:

Mr. J. Hutchinson: Auto inoculation and Reinfection of Syphilis.

Mr. Herbert J. Paterson: Jejunal and Gastro-jejunal Ulcer following [illegible] Notes of Two Cases, in One of wh[illegible] made Before and After Operation [illegible] ith an Abstract of 59 Recorded Cases and Observations thereon.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—H. Beckett-Overy, William J. Gow): at 7.45 P.M.

Short Communication:

Mr. J. Bland Sutton: Red Degeneration of a Uterine Fibroid, Associated with the Staphylococcus Pyogenes Aureus.

Specimens:

Specimens of Ruptured Uteri will be shown by the President, Dr. W. E. Fothergill, Dr. H. Russell Andrews, Dr. J. B. Hellier, and others.

Papers:

Dr. T. W. Eden: The Operative Treatment of Rupture of the Uterus; with an Account of Three Cases treated by Abdominal Hysterectomy.

Dr. Lionel Smith: The Treatment of Rupture of the Uterus; with a Description of Cases.

FRIDAY.

CLINICAL SECTION (Hon. Secretaries: Raymond Johnson, H. D. Rolleston): at 8 P.M.

Cases:

Dr. F. Spicer: Paralysis of Spinal Accessory Nerve.

Mr. W. G. Spencer: Reduction of an Old Subcoracoid Dislocation of Shoulder, Complicated by Fracture of Humerus, by Excavating the Glenoid Cavity.

Dr Finzi: (1) Inoperable Recurrent Carcinoma of Mamma treated by Radium; (2) Epithelioma of Lip under Treatment by Radium; (3) Arthritis of the Knee treated by Lithium iodine Ionisation.

Mr. V. Warren Low: Pneumococcal Cystitis and Arthritis.

Mr. Sidney Boyd: A Patient with Sprengel's Deformity of the Shoulder and Hirschsprung's Disease (Definite Rectal Obstruction).

Dr. McNalty: Aortic Aneurysm (?) in a Boy.

Dr. Parkes Weber: Woman Three Years after Omentopexy and Drainage for Chronic Ascites probably connected with Hepatic Cirrhosis.

Dr. F. de Havilland Hall and Mr. W. G. Spencer: Splenectomy for Splenic Anæmia.

(At 9 P.M.):

Dr. T. Stacey Wilson will show Three Coloured Projection Drawings of the Brain, showing the Relations which the Internal Structures would be seen to have to the Convolutions if the Brain were Transparent.

Paper (at 9.45 P.M.):

Dr. Poynton and Mr. Trotter: A Case of Cardiolysis with a *resumé* of the Operative Measure Practised.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8 P.M., General Meeting. Election of Officers for 1909–10 Session and Reports of the Various Committees and Council. 8.30 P.M., Mr. J. D. Malcolm: The Treatment of Shock.—Mr. T. H. Kellock: The Association of Appendicitis and Pyosalpinx.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

WEDNESDAY.—8.30 P.M., Major H. W. Grattan, R.A.M.C., and Captain D. O. Hyde, R.A.M.C.: Some Points in the Standardisation of Typhoid Vaccine.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Dr. H. J. Macevoy: Paroxysmal Pulmonary Œdema in Bright's Disease.—Dr. B. H. Spilsbury: Some Practical Points in Clinical Bacteriology.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. S. E. Dore: Clinique (Skin). 5.15 P.M., Lecture:—Dr. T. D. Savill: T[illegible]

TUESDAY.—4 P.M., Dr. G. Ranki[illegible] M., Lecture:—Mr. T. Walker: [illegible] of Malignant Disease of the Bladder.

WEDNESDAY.—4 P.M., Mr. C. Ryall: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. C. O. Hawthorne: The Scope and Purpose of the British Pharmacopœia.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. F. J. Wethered: The Treatment of Chronic Heart Disease, especially by Mechanical Methods.

FRIDAY.—4 P.M., Dr. S. Spicer: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Pathological Demonstration—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Davis: Diseases of Throat, Nose, and Ear.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Moullin: Gynæcological Cases.

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Harman: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Medicine.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Davis: Diseases of Throat, Nose, and Ear.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Lecture:—Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Low: Plague.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. Mr. Harman: Diseases of the Eyes. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Mr. W. Edmunds: Knots, Ligatures, and Sutures.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. G. N. Biggs: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Sir Dyce Duckworth: Tedious Recovery from Illnesses.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 3.15 P.M., Special Lecture:—Sir William Bennett: The Moral Factor in Relation to the Treatment and Growth of Disease.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

[illegible]

TUESDAY.—3.45 P.M., Lecture:—Dr. Atkinson: Pharynx and Naso-pharynx.

FRIDAY.—3 45 P.M., Lecture:—Dr. D. McKenzie: External Ear.

OPERATIONS.

MO[illegible]

[illegible]

TUESDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1 30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's [illegible]

[illegible] Samaritan (9 30 A.M. and 2 30 P.M.), Gt. Northern Central (2 30 P.M.), West[illegible]

T[illegible] P.M.), St. Thomas's [illegible]

[illegible] (9 30 A.M. a[illegible] (1.30 P.M.), Gt. Ormon[illegible] 2 30 P.M.), [illegible]

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 6th, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain fall	Solar Radio in Vacuo	Maximum Temp Shade	Min Temp.	Wet Bulb	Dry Bulb.	Remarks.
April 30	29·95	N W.	0 23	107	53	42	41	45	Cloudy
May 1	30 02	N W	0·03	106	50	37	33	42	Cloudy
" 2	30 32	N.W.	...	100	54	33	45	47	Cloudy
" 3	30 42	S W.	...	113	53	42	45	47	Cloudy
" 4	30 40	S E.	...	117	64	44	48	53	Fine
" 5	30·27	S E	...	117	63	47	50	55	Fine
" 6	30 19	S E.	...	120	66	51	52	57	Fine

During the week marked copies of the following newspapers have been received:—*Barnes and Mortlake Mail, Jersey Evening Post, Surrey Ad*[illegible] *Westminster Gazette, Penny* [illegible] *Wales Echo, Derry People,* [illegible] *Electricity, Morning Adver*[illegible] *ely Citizen, South Wales Echo, Investors' Gazette, The Observer, Manchester Despatch, Blackpool Gazette, Ormskirk Advertiser, Bakers' Record, Morning Leader, Manchester Chronicle, Somerset Weekly Gazette, Bristol Mercury, &c.*

Communications, Letters, &c., have been received from—

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N.—Nottingham General Hospital, Secretary of; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.

O.—Dr. M. W. B. Oliver, Whitwell.

P.—Portsmouth Borough Asylum, Clerk to the; Partington Advertising Co., Lond.; Dr. T. W. Parry, Lond.; Messrs. Peacock and *Hadley, Lond.*

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Z.—Messrs. C. Zimmermann and Co., Lond.

Letters, each with enclosure, are also acknowledged from—

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O.—Dr. A. B. Olsen, Caterham Valley.

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A Presidential Address
ON
THE SPREAD OF TUBERCULOSIS—HEREDITY OR INFECTION?

Delivered before the Birmingham University Medical Society

BY J. G. EMANUEL, B.SC., M.D., B.S. LOND., M.R.C.P. LOND.,
SENIOR PHYSICIAN TO OUT-PATIENTS AT THE QUEEN'S AND CHILDREN'S HOSPITALS, BIRMINGHAM.

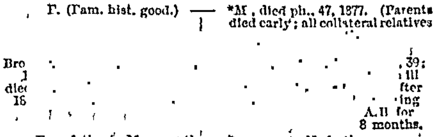
GENTLEMEN,—The title of this address indicates sufficiently, I trust, the question to which I wish to draw your attention this evening. Which is the important factor in the spread of consumption, is it heredity or is it infection? To which is due the vast army of consumptives that we are daily called to alleviate if not to cure? Is consumption kept ever with us because tuberculous parents produce tuberculous children, or because consumption spreads *from one* member of the community to another, as we know is the case with cholera, [illegible] diseases? If [illegible] it is our duty [illegible] approval on t[illegible] of tuberculosi[illegible] can only stamp out tuberculosis by the successful annihilation of the tubercle bacillus. This we are slowly effecting by teaching consumptives to destroy their expectoration and by segregating phthisis as we do patients suffering from other infectious diseases. In this difficult and protracted warfare we are helped by our Legislature, which enforces a pure air-supply to our schoolrooms, factories, and workshops, and which is endeavouring to insure a tubercle-free milk-supply to our towns and cities.

To make my thought quite clear I may say at once that, while I do not deny that both heredity and infection play their respective rôles in the spread of consumption, I am inclined to think that for all practical purposes it is the infectiousness of consumption we have to deal with, and that we may, for the most part, disregard hereditary predisposition. Or, to put the same thing in another way, I do not think that because a man dies from consumption his children are necessarily more liable to this disease than children of a non-consumptive Their liability to consumption depends upon their exposure to infection. The infectivity of consumption is in no sense a new theory. Galen wrote about it some 150 years B.C. (200-131 B.C.). The knowledge of consumption is older still. Hippocrates' classical work on the subject was written between 460–377 B.C. It was the recognition of the contagiousness of consumption that led Koch 26 years ago to discover the [illegible] It was because Koch recognised [illegible]tions that he sought for the cause [illegible] it in the form of the tubercle bacillus. The discovery of the tubercle bacillus did not start the theory of contagion. *Shortly after Koch's discovery* an attempt was made to settle the question which was the chief factor in the production of tuberculosis, heredity or infection? A general inquiry was instituted in the United States, England, Germany, France, Italy, Holland, and Russia. This investigation [illegible] briefly, I may say, because o[illegible] cally proving a case to be [illegible] infection.

The scientific proof of heredity is well-nigh an impossibility. We should require the records of many families in which several children of tuberculous parents had succumbed to tuberculosis in spite of early removal from their parents and early separation from one another, without the possibility of exposure to other sources of infection. It is quite obvious that such conditions are impracticable. Such restrictions can, however, be employed in the case of guinea-pigs and rabbits and are most nearly approached in man in orphan asylums. The results of these animal experiments and the records of orphan asylums, as will be mentioned later, give no support to the hereditary doctrine.

Let us first turn our attention to cases of phthisis occurring in the same family, because it is just these cases that give such strong support to the importance of the hereditary factor. When, however, we carefully examine these family cases we shall find: (1) that they arise by infection *carried by one member of the family to another* and are in no sense the result of hereditary influence; (2) children hereditarily tainted tend to remain healthy when brought up in orphan asylums or foundling institutions; (3) in many cases of phthisis among children the disease can be traced to the foster-parents or to the step-parents and not at all to the parents themselves; and (4) often the parents show the first signs of disease years after the birth of the child, and very often the parents and children fall victims at about the same time. A detailed consideration of a few of these cases will help to make these points clear.

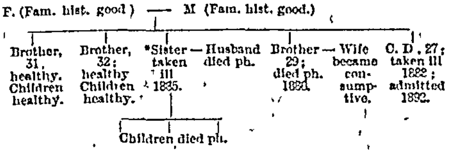
CASE 1.—


F. (Fam. hist. good.)
*M., died ph., 47, 1877. (Parents died early; all collateral relatives
Bro
died
16
39;
ill
fter
ing
A.B. for
8 months.

F. = father. M. = mother. * = source of infection.
A. B., C. D., &c. = patients. Ph. = phthisis.

A. B., aged 31 years, was admitted into hospital in 1892. The family history on his father's side was good, but his mother died from phthisis in 1877, aged 47 years, and all her collateral relatives died from the same disease. One year after the death of the mother in 1878, a brother, aged 16 years, died from phthisis; he had always lived at home. In 1879, a sister, aged 25 years, who had been married for three years, died from phthisis; she had been sick ever since leaving her parents' home. In 1883 a brother, aged 18 years, died from phthisis. In 1887 a brother, aged 35 years, died; he was said to have suffered from cough and expectoration for years A. B. first showed symptoms in 1889. The brothers and sisters had associated together a great deal. The eldest sister, aged 39 years, nursed the patient for eight months and fell a victim in 1892, the year that he was admitted into hospital. Cases like these are frequently quoted as proving hereditary transmission of the disease from parent to child, but it will be observed that the mother showed the first signs of the disease years after the birth of her youngest child and that the children became affected all within a few years of each other at quite different ages.

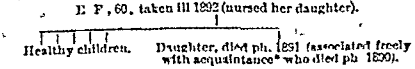
CASE 2.—


F. (Fam. hist. good.)
M. (Fam. hist. good.)
Brother, 31, healthy. Children healthy.
Brother, 32; healthy Children healthy.
*Sister taken ill 1885.
Husband died ph.
Brother 29; died ph. 1886.
Wife became consumptive.
C. D., 27; taken ill 1882; admitted 1892.
Children died ph.

In the following case the disease was brought into the *family by one of the daughters.*

C. D., aged 27 years, [illegible] but he had had hæmopt[illegible] aged 31 and 32 years, [illegible] healthy. In 1885 a married sister who had lost her husband and three children through tuberculosis became consumptive. A brother, aged 29 years, who had had much to do with this sister, died from hæmoptysis in 1886, and his wife also became consumptive C. D. had associated a good deal with his consumptive *brother and sister, and, as already* stated, had his *first symptoms of the disease in 1883.*

CASE 3.—


E. F., 60, taken ill 1892 (nursed her daughter).
Healthy children.
Daughter, died ph. 1891 (associated freely with acquaintance* who died ph. 1890).

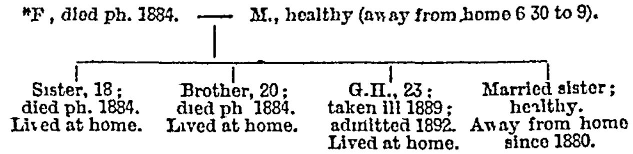
In this case the disease passed directly from daughter to mother.

E. F., a married woman, aged 60 years, had good health

No. 4472.

until 1892 when she contracted phthisis. Her family history was excellent. She had six children, five of whom were healthy and aged from 25 to 36. One daughter had associated very freely with a tuberculous acquaintance both in working and in leisure hours. The acquaintance died from phthisis in 1890, the daughter followed in 1891 a victim to the same disease, and the patient herself (who had nursed her daughter) became consumptive the following year. The other five daughters had come but little into contact with their consumptive sister and remained in good health.

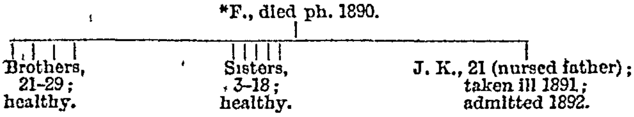
CASE 4.—


*F , died ph. 1884.
M., healthy (away from home 6 30 to 9).
Sister, 18; died ph. 1884. Lived at home.
Brother, 20; died ph 1884. Lived at home.
G.H., 23: taken ill 1889; admitted 1892. Lived at home.
Married sister; healthy. Away from home since 1880.

In the following case those who were least at home escaped.

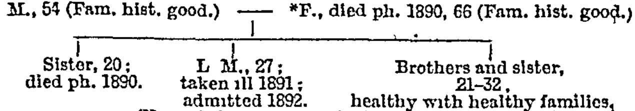
G. H., aged 23 years, was admitted suffering from phthisis in 1892. His father died from phthisis in 1884 and during the same year a sister, aged 18 years, and a brother, aged 20 years, both died from phthisis. The patient lived with this brother and sister and in 1889 had his first hæmoptysis. His eldest sister married in 1880, left home, and remained healthy. His mother, aged 56 years, worked away from home all day (6.30 A.M. to 9 P.M.) and was also healthy.

CASE 5.—


*F., died ph. 1890.
Brothers, 21-29; healthy.
Sisters, 3-18; healthy.
J. K., 21 (nursed father); taken ill 1891; admitted 1892.

J. K., aged 21 years, was admitted in 1892. Her father died in 1890 from phthisis; she nursed him until his death. In 1891 she had hæmoptysis and a year later was admitted with phthisis. Her brothers, aged 21 to 29 years, and her sisters, aged 3 to 18 years—i.e., both younger and older than she—were all healthy.

CASE 6.—


M., 54 (Fam. hist. good.)
*F., died ph. 1890, 66 (Fam. hist. good.)
Sister, 20; died ph. 1890.
L M., 27; taken ill 1891; admitted 1892. (Nursed sister at home)
Brothers and sister, 21-32. healthy with healthy families. (Away from home all day.)

L. M., aged 27 years, was admitted in 1892. Her mother was 54 years of age and was healthy. Her father died at 66 years of age from phthisis in 1890. The same year the death of her sister, aged 20 years, from phthisis occurred, and this sister was nursed by the patient. The patient became affected with the disease in 1891. The other children (21 to 32), i.e., both younger and older than the patient, are in good health and have healthy families. They remained away from home the entire day.

What I wish to emphasise with regard to these cases is that while they are cases in which different members of the same family have succumbed to the same disease, far from supporting any theory of heredity, they speak strikingly in favour of the doctrine of infection. In a given family, parents and children, young and old, all fall victims at much the same date, irrespective of their ages, thus showing that the infection passes from one member of the family to another, sometimes from brother to sister, or sister to brother, sometimes from parent to child, but not infrequently from child to parent. If, on the other hand, these were cases of heredity, we should not expect to find parent attacked in much the same year, but we should expect that the children would become affected on reaching a certain age, that age varying in different families. What actually occurs is that parent and child, or brother and sister of quite different ages, all succumb within a few years of one another.

Infection through marriage.—Heredity does not explain cases of infection through marriage, of which there are hundreds of cases on record. The infection is more often from husband to wife. Out of 262 cases collected by the British Medical Association 119 were cases of infection from husband to wife, and in 69 the infection was from wife to husband. Dr. Weber instances nine husbands, tuberculous before marriage, who lost 18 wives, one lost four in succession, one three, four two each, and three one each. The wives were all healthy before marriage and with one exception free from hereditary taint.

Infection through the dwelling.—Just as infection is transmitted in families and in married couples, so it often occurs amongst unrelated individuals accustomed to live together. The essential element in all such cases is the fact of living together. Such infection plays an especially important rôle amongst the lower classes with whom overcrowding is prevalent. The room need not be simultaneously occupied by the consumptive and another, for virulent tubercle bacilli have been found on the walls of a house six weeks after the death of an uncleanly consumptive. Two consumptives died in a new, fairly healthy dwelling, and within the next 12 years 12 fatal cases of consumption occurred amongst the occupants. The following case, which seems to be a case of house infection, came under my own notice.

In April, 1906, I saw two sisters who lived in Burton. The elder was suffering from chronic phthisis of about two years' duration, while the younger sister had acute phthisis of 12 months' duration. These were the only known cases of consumption in the family and on seeking a cause for their illness I was told the following. About three years before the elder sister had left home in perfect health to earn her living in Coventry where she lodged in the house of a widower whose wife had but recently died from consumption. Within three months of her going to this house she became affected with cough, expectoration, wasting, and night sweats and had to return home. The younger girl had never left home, and, to my mind, there is little doubt that she caught the disease from her sister, who imported it into the home from Coventry. The infection was a virulent one, for she died from her disease in December, 1906. The elder sister is still living.

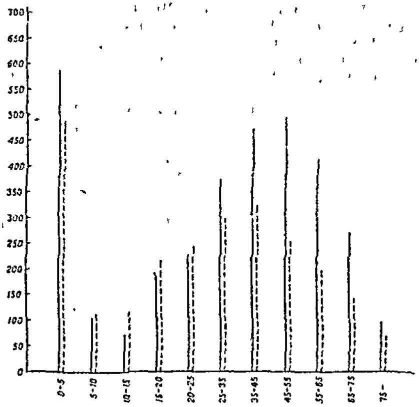
Infection of fellow labourers.—The consumptive may be a greater source of danger to his fellow workman than to his family, especially in the case of indoor occupations. The mortality is much higher in the case of indoor employees (factory hands, workshop assistants, office clerks, waiters, &c.) than in the case of outdoor employees (masons, builders, coachmen, policemen, street cleaners, &c.). The following cases came under my own observation.

I examined in January, 1907, A. G., a jeweller, aged 28 years. He was then suffering from acute phthisis of the left lung and was first taken ill at Easter, 1906. His father, brothers, and sisters were in good health but his mother had succumbed to consumption 20 years ago. At first I thought "Well, this clearly is a case of hereditary transmission," but on further inquiry I elicited the following. A. G. worked in a small workshop with 14 or 15 other hands and with one of the men, P. K., he was closely associated. These two men worked at the same bench alone and they were in the habit of using in common a camel-hair brush for soldering purposes and this brush was constantly kept in their mouths. Now P. K. had a very bad cough on his first coming to the shop, and he was known to have died from phthisis in February, 1906. In my opinion this savours far more of infection of one workman by another than of transmission from a mother who died 20 years before her son showed any signs of the disease.

E. T., a seaman on H.M.S. *Implacable*, 18 years of age, had a family history free from tuberculosis, and his personal history was quite good up to the time of his entering the *Implacable* in January, 1906. In July, 1906, he became ill and in August, 1906, was discharged invalided with phthisis. I saw him in January, 1907, and he had well-marked phthisis of both lungs. He *volunteered* the information that he must have caught his cough from another seaman, W. S., who occupied a berth alongside his own. W. S. was invalided out of the service with phthisis shortly after E T. There are not sufficient data to express a definite opinion but it is highly probable that E. T. was infected either by W. S. or by one of the other seamen on board.

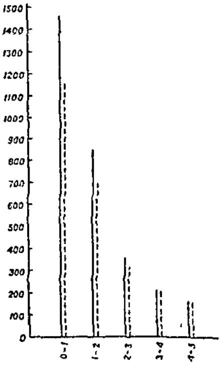
Infection through nursing.—It is the pride of many consumption hospitals to make the boast that their nurses and residents do not become infected. This, however, is not borne out by my own experience derived from living in one of London's large consumption hospitals for a period of nearly three years. I have met with not a few instances of

CHART 1.



Mortality from tuberculosis per 10,000 living in England and Wales during the 16 years 1891–1906 at different age periods. Black lines, males. Dotted lines, females.

CHART 2.



Mortality from tuberculosis per 10,000 living in England and Wales during the 16 years 1891–1906 for the first five years of life. Black lines, males. Dotted lines, females.

Mortality from Tuberculosis per 10,000 Living for 16 Years.

	Years.		Males.		Females.	
Chart II.	0-1	0-5	1467	593	1148	487
	1-2		842		705	
	2-3		365		317	
	3-4		215		204	
	4-5		170		158	
Chart I.	5-10		109		116	
	10-15		78		129	
	15-20		179		224	
	20-25		231		252	
	25-35		372		295	
	35-45		473		322	
	45-55		502		250	
	55-65		420		200	
	65-75		272		141	
	75 and over.		102		63	

infection [illegible] sisterhood [illegible] used to be [illegible] prophylaxis it fel[illegible] This must have been due to [illegible] exposure to infection, since all other conditions remained unchanged.

Infection of health resorts.—In Cannes tuberculosis was rare among the inhabitants before 1860; from that time, which marks the beginning of the winter invasion by consumptives, the disease has become frequent. Davos, San Remo, and Mentone, originally free from tuberculosis, have had the disease gradually imported by invalids from this and other countries. In all these instances the washerwomen and the chambermaids have been the most noticeable victims. Certain people, like the Tahiti, the New Zealand, and American Indians, first learnt to know tuberculosis from Europeans, and came to regard the coughing "white man" with terror. Such facts as these can find no adequate explanation in heredity, but, on the other hand, stand out pre-eminently in support of the contagiousness of the disease.

Influence of age and sex.—It is, however, when we come to consider the influence of age and sex that the doctrine of heredity receives its greatest blow.

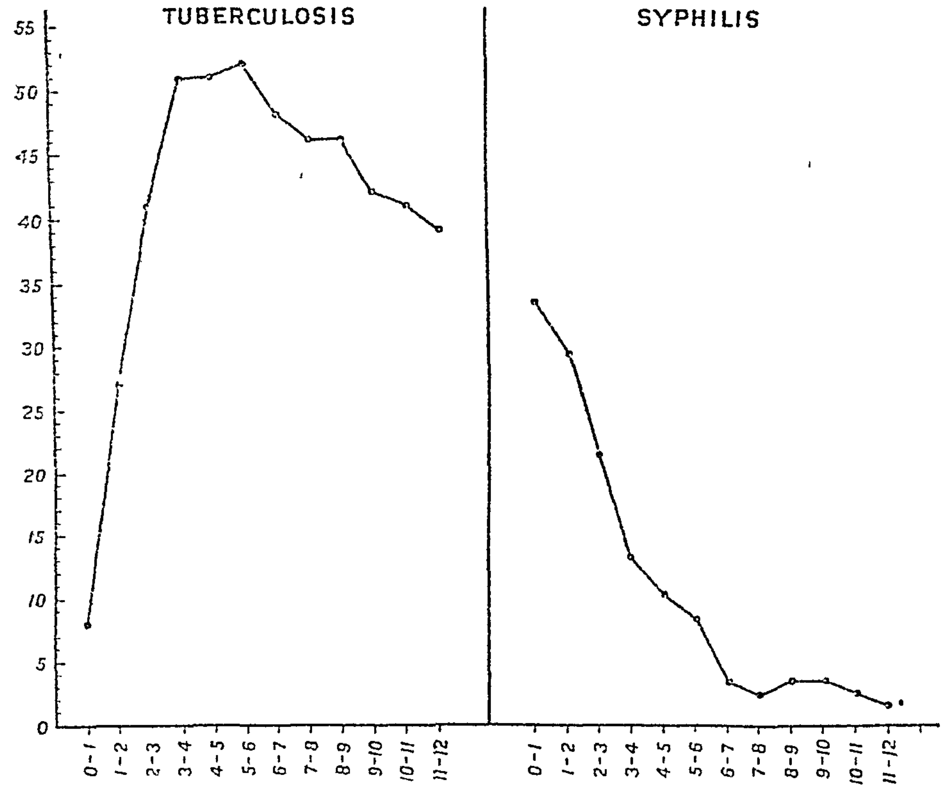
Charts 1 and 2 represent the mortality from tuberculosis at different ages and are constructed from the Registrar-General's returns for England and Wales. They cover a period of 16 years—1891–1906—and satisfy at least one of the requirements of trustworthy statistics, for they represent a mortality from tuberculosis of nearly 1,000,000 out of a total population of over 500,000,000. They include all forms of tuberculosis, general, pulmonary, abdominal, and meningeal, as well as tuberculous diseases of the glands, skin, joints, bones, &c. The charts show an enormous mortality in infancy (0–5 years); higher, indeed, than at any other period of life. The death-rate falls in the second and third quinquennium and then begins to rise till it reaches its maximum between 45 and 55, when it again declines. It will be noted that the maximum mortality does not occur, as is generally thought, in the prime of life, but at the more advanced age of 45 to 55 years. The very high mortality in infancy (0–5 years) is due, as a glance at Chart 2 will show, to the enormous death-rate in the first year of life. Chart 1 seems to show that the schools are not a great source of infection; this may be a fact, but, on the other hand, the infection acquired during the school age (5–15) may swell the mortality returns of the succeding years, for tuberculosis is a chronic disease, and the chart does not show the age of infection but the age at death. For the most part the mortality amongst males is higher than that amongst females, but from 10 to 25 it is appreciably higher in females. It may be that in females the strain of puberty and of child-bearing shows itself very markedly in those who are affected with tuberculosis. The doctrine of *heredity will not explain this table, for* if heredity were the important factor in influencing the amount of tuberculosis we should expect that the gradually diminishing *mortality observed in the first five years of life* and continued through the 5–10 and 10–15 age-periods would be continued throughout life. Instead of this we find that after reaching a minimum of 10 to 15 for males and 5 to 10 for females, it begins to rise till it reaches a maximum at 45 to 55 for males and 35 to 45 for females, when it again declines. Such a curve as this cannot be explained by any hereditary influences.

Let us now consider briefly the doctrine of heredity. It is generally conceded that the children of tuberculous parents frequently become tuberculous. This by many is ascribed to hereditary influence and while some believe that the children are born with the bacilli in their system most merely assume the transmission of a certain predisposition.

Bacillary transmission.—We will first discuss the possibility of the transmission of the bacillus to the embryo by the mother or father during its intra-uterine existence, for according to some the tubercle bacillus is present in the child at birth, but may remain latent for a varying number of years, when some temporary lowering of the individual's resistance allows the bacilli to burst into activity and cause the disease we know as tuberculosis. Now if this were so we should expect to find numerous examples of congenital tuberculosis, for theory requires that 1 in 9·5 *of all children* born should contain the germ of tuberculosis. Now for years the attention of pathologists has been directed to this question, and many thousands of stillbirths and of children under one month have been submitted to examination. What is the result? There are actually less than 20 cases of congenital tuberculosis on record.

Contrast this with syphilis which we know to be infectious and hereditary. Instances of congenital syphilis from similar post-mortem examinations are numerous beyond mention. The few cases of congenital tuberculosis that have been found have occurred in women with advanced tuberculosis who have never survived their confinements by more than a few weeks. Of the cases themselves one died three weeks old, one eight days old; the others were not even born alive, but were fœtuses of five to eight months. We may surely conclude that while congenital tuberculosis may exceptionally occur it can be of no importance as a factor in the dissemination of consumption. It may be suggested that the very high mortality already referred to as occurring in the first year of life must be due to congenital tuberculosis—i.e., that children are born with tuberculosis, active or latent, but die in large numbers, in the first year of life, just like what we know to occur in children born with syphilis. Congenital syphilis, we know, gives rise to many miscarriages and stillborn children, but of those infected with syphilis and born alive the majority die in the first year. Might this not be so in tuberculosis? I think not and for this reason. If you analyse the deaths from congenital syphilis and from tuberculosis occurring in the first year of life you will find that, whereas in syphilis—a truly congenital disease—the majority of deaths occur in the first month and month by month the death-rate diminishes (*vide* Chart III.) till it becomes almost inappreciable by the twelfth month, exactly the opposite is the case with tuberculosis. Here the minimum of deaths occurs in the first month and the death-rate rises month by month till the maximum mortality is reached in the fourth, fifth, and sixth months. This suggests that these deaths from tuberculosis are not due to a congenital disease like syphilis. The infant is born healthy and remains free in the early months of life, and it is not till some months have elapsed during which opportunities have been afforded for infection to occur that symptoms of tuberculosis show themselves.

CHART 3.



Deaths from tuberculosis and syphilis (both sexes) in England and Wales in 1906, in the first year, per 10,000 births.

Deaths from Tuberculosis and Syphilis (both Sexes), England and Wales, 1906, in the First Year of Life per 10,000 Births.

Months	Tuberculosis	Syphilis
0-1	0·8	3·3
1-2	2·7	2·9
2-3	4·1	2·1
3-4	5·1	1·3
4-5	5·1	1·0
5-6	5·2	0·8
6-7	4·8	0·3
7-8	4·6	0·2
8-9	4·6	0·3
9-10	4·2	0·3
10-11	4·1	0·2
11-12	3·9	0·1

Latency of tuberculosis.—Is it possible, as some hold, for tubercle bacilli to enter the embryo in utero and remain latent till adult life, when some accidental circumstance weakens the individual and renders the soil suitable for the dormant horde of bacilli to awaken into life? In support of this view is put forward the fact that in people dying from disease other than tuberculosis, tuberculous foci, partly or completely healed, are frequently found. Such accidental findings have been placed by some observers so high that in every third or fourth non-tuberculous corpse such a focus can be found. There is, however, no proof that these foci have been present for a long time. They are probably due to post-natal infections which have become healed. It seems improbable that tubercle bacilli could remain alive but latent sometimes for 40 to 60 years, when we realise that in the laboratory bacilli cannot be kept alive for more than half a year under the most favourable conditions. But all doubts as to the extra-uterine origin of tuberculosis in infancy, to say nothing at all of its occurrence in adults, are expelled by the pathological findings. In cases of tuberculosis incontestably congenital the liver is the organ chiefly involved, and this is because the germ derived from the mother is carried to the fœtus in the blood stream, and, for anatomical reasons, passes to the liver before it is distributed to the other organs. Now in the preponderating majority of tuberculous children it is not the liver, but, as in adults, the lungs and bronchial glands that are chiefly affected, and after these organs the mesenteric glands, according as the infection is by inhalation or by food consumption. The theory of heredity, however, receives another blow from the fact that the children of tuberculous parents remain free from the disease if removed from their parents, that is to say, from the source of the infection. Thus, at an orphan asylum in Munich in 41 per cent. of the children both parents had died from tuberculosis, and in 43 per cent. either the father or the mother. In spite of this only two cases of tuberculosis were observed amongst 620 children. In an orphan asylum in Nuremberg with capacity for 100 children, many with a pronounced tuberculous taint, only a single case of tuberlosis occurred in eight years Bernheim found that the progeny of tuberculous rabbits, guinea-pigs, and dogs became tuberculous if they remained with their parents, but on the other hand remained well if removed instantly after birth. It fell to this observer to deliver three tuberculous women of twins. In each case he had one child nursed by a healthy wet nurse living with the mother and the other child sent to the country. In all three cases the children at home died, whereas those sent to the country remained well.

Hereditary predisposition.—A majority of physicians understand by the term heredity when applied to tuberculosis not a bacillary transmission but a certain predisposition. The percentage of cases showing a hereditary predisposition varies widely from 10 to 85 per cent. according to different authorities. This discrepancy varies according as the parents only are taken into account, or the parents and grandparents, or in addition the sisters and brothers of the parents; by some tuberculosis occurring in any relative is regarded as a sign of hereditary taint. Hence the great variation 10 to 85 per cent, quoted by different authors. The mere fact, however, that the same disease has appeared previously in the family does not prove a hereditary predisposition.

Remembering that a given patient has on an average 12 close relatives (reckoning only two parents, four grandparents, one sister, one brother, and one brother and sister to each parent), it is not to be wondered at that more than one death from consumption is to be found in the same family, since we have seen that 1 in every 9·5 individuals dies from tuberculosis. To prove hereditary predisposition we must prove that in the families of the non-tuberculous consumption does not occur even approximately as often as in the families of consumptives. This has not yet been demonstrated. On the other hand, Kuthri tested the frequency of tuberculosis in the parents of 432 tuberculous and 108 non-tuberculous patients and found practically no difference in the amount of tuberculosis in the parents of these two classes. Even were it proved that the children of consumptives were more frequently the victims of tuberculosis than those of healthy parents, this would not prove hereditary predisposition; the greater frequency would be due to increased opportunities for infection. In order to prove hereditary influence one would have to remove the individual from the circle of his family and then exclude every possible chance of contagion from external sources—an impossible procedure. Bernheim's experiments on animals in which these conditions have been fulfilled have already been quoted. Before assuming a hereditary transmission from parent to child one must exclude the possibility of infection of the parent by the child. Not infrequently the disease is transmitted by the child to the parent.

s in young people heredity
part, whereas in the consump-
strangers is more commonly
noticed. This is simply because when consumption appears in young people, infection generally is to be found in the family circle, while in adults separation from the family is the rule and the disease is more readily traceable to contact with strangers. Some observers make a point of the greater frequency of hereditary transmission through the mother. But again all that this means is, that the mother being in more intimate relation with the children and the home than is the father, contagion has a better chance of spreading from the mother to the child than from the father to the child. Surely, it may be urged, some people are more liable to consumption than others. Yet, on the other hand, can there be any sharp distinction between those that are susceptible to tuberculosis and those that are immune from it, when we consider that 1 in 9·5 of all persons dies from tuberculosis, and that tuberculous foci are found in numerous other bodies as well? Susceptibility or no susceptibility, the healthiest and strongest individuals with no hereditary taint fall victims to consumption. It is only necessary to recall the prevalence of consumption in athletes and of tuberculosis in prize cattle.

In conclusion, let me make it clear that I have no desire to ignore the part that heredity may play in the spread of consumption. I only wish to emphasise the fact that infection exerts a far greater influence. Heredity cannot explain:—1. Cases of phthisis occurring in the same family and obviously spreading from one member to another. 2. Cases of phthisis conveyed from husband to wife and *vice versâ*. 3. The prevalence of phthisis among the overcrowded poor. 4. The greater prevalence of phthisis among in-door as opposed to out-door employees. 5. Cases of phthisis occurring amongst individuals brought into close contact by their daily avocations, either in the home, office, workshop, or factory. 6. The prevalence of phthisis among those engaged in tending consumptives. 7. The appearance of phthisis in places now used as health resorts, previously immune from the disease. 8. The mortality from tuberculosis gradually diminishing from infancy to 10 to 15 years and subsequently rising to a maximum at 45 to 55 years.

I give prominence to what I call the "infection" factor chiefly because of its great practical importance in directing our campaign against tuberculosis. It should also exert a cheering influence, for society need not brand as dangerous those of its members in whose family some relative may have died from this disease. And yet this is constantly done. We see it in the examination for life insurance. As soon as an individual applies to insure his life, if there is any consumption in his family, he is made to pay a high premium if he be not actually refused; whereas another applicant with a good family history is passed as a first-class life, though he may be daily exposed to infection either at home through his wife and children or at his daily work. Such an individual is far more likely to fall a victim to tuberculosis than one who may have lost a near relative through this disease. This attitude adopted by insurance companies is one that reflects the views of the public, and I may say that it was just this knowledge that prompted the subject of this address.

Why the hereditary factor, which no doubt exists, falls into insignificance in the case of tuberculosis is difficult to answer, but it may be that the very prevalence of tuberculosis is the reason. No one speaks of the hereditary transmission of measles and scarlet fever, though it is more than probable that these infections have a predilection for certain families. These diseases are so prevalent that we only concern ourselves with their paths of infection and not at all with any theoretical consideration of the possibility of their hereditary transmission. This may be the same with tuberculosis. Tuberculosis is so prevalent that any hereditary tendency to it falls into comparative insignificance. From the practical point of view it is the various paths of infection that are of importance to us and not the hereditary predisposition to the disease.

THE X RAY TREATMENT OF RINGWORM OF THE SCALP,

WITH SPECIAL REFERENCE TO THE RISKS OF DERMATITIS AND THE SUGGESTED INJURY TO THE BRAIN.

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The x ray treatment of ringworm of the scalp has attracted considerable attention recently on account of (1) the deliberations of the London County Council on the desirability of providing medical treatment of certain specified diseases in the Council's school children and the suggestion that the x ray treatment should be employed in the case of ringworm; and (2) the alarming statements which have been made in the press that this treatment might injure and arrest the development of the growing brain. In this contribution I propose to give my experience of this treatment since October, 1904, with special reference to the risks associated with it. Since 1904, in the out-patient departments under my charge and in private I have treated or personally supervised the treatment of over 370 children, and with the exception of a few cases in 1904 treated by multiple doses, all these cases have been treated by the single dosage method based on the principle introduced by M. Sabouraud—namely, of exposing the affected areas of the scalp at a distance of 15 centimetres from the anticathode, and employing circular localisers of various sizes, and in this way over 1500 single doses have been given.

Everyone with any extensive experience of the treatment of ringworm of the scalp will agree that the x ray treatment, if successfully carried out, is the most rapid, effective, and painless method of curing the disease. It is true that a small isolated patch of ringworm of the scalp may be quickly cured by skilful needling with croton oil in the manner advocated by Dr. H. Aldersmith or by electrolysis of the diseased hairs, but when the disease is extensive such methods are not practicable. A considerable experience of the older methods of treatment in two out-patient skin departments previously to the introduction of the x ray method showed the great difficulties of curing the disease by parasiticide and irritating applications. In my own experience I regarded it as most fortunate if an extensive case was cured under a year and in a large number of the cases the time of attendance at hospital extended to several years. This was doubtless partly due to the treatment being carried out at home in a perfunctory manner, but at the ringworm school at Paris under the charge of M. Sabouraud where the affected children lived and were under constant supervision and thorough treatment by the most effective remedies then known, the average time in which a child was cured was 18 months.

By the x ray treatment, under favourable conditions and successfully carried out, a case of ringworm, however extensive, may be cured in three or four weeks and without causing either pain or discomfort to the child, and by it the average time of residence in the ringworm school has been reduced from 18 months to three months. Before the use of the x rays the average cost per child in the ringworm school at Paris was 2000 francs; by means of the rays the cost has been reduced to 260 francs. At the ringworm schools of the Metropolitan Asylums Board, under the care of Dr. T. Colcott Fox, a corresponding reduction in the time of treatment has been achieved, and according to the report in 1906, by the employment of the x rays the time taken to cure a case has been reduced from an average of 18 months to three and a half months. It is unnecessary to labour this point further than to say that since the introduction of the x rays for the treatment of ringworm of the scalp a disease which was formerly the opprobrium of physicians can now be cured in a comparatively short time, provided the scalp is not in an inflamed condition from the application of irritating ointments.

In this paper I do not intend to discuss the mode of application of the x rays for ringworm of the scalp but will simply state the method employed in the two out-patient skin departments under my charge. In 1904 in the first few cases which I treated I employed the multiple dosage method, but abandoned that in 1905 for the single dosage method which I regard as being not only far more accurate and practical but safer, since with repeated small doses an accumulated effect may take place in an uncertain manner. Since 1905 the dosage of x rays which I have employed has been regulated by the Sabouraud and Noiré pastille, which I have found invariably to be reliable. The tube stand and system employed was described and figured in the *British Medical Journal* in September, 1905, and by means of it the pastille can be turned to the standard tint in an average of 15,000 dips of the mercury break in about 15 minutes, with a tube of a tension of 6 to 7 of the Benoist radiochronometer and about half a milliampère of current in the secondary circuit. Localisers of the required length and diameter are used and the whole of the affected area is exposed piecemeal, each area after exposure being accurately covered with thin sheet lead. After the exposure a 3 per cent. salicylic acid and sulphur ointment is rubbed all over the scalp each night and in the morning a carbolic and glycerine lotion (1 in 8) is applied; on the fourteenth day, and during the third week, while the hair is falling out, the scalp is washed every morning in addition. The exposed areas should be completely bald by the twenty-first day, and the child no longer infectious. The hair begins to grow again in a fine down six weeks later, and the regrowth is complete in five or six months. The new hair is strong and healthy; it may be lighter in tint than the older hair or it may be of a darker hue, but it gradually becomes indistinguishable from it. Occasionally it comes in more curly than it was formerly. This, in short, is the sequence of events when the x rays are successfully employed, but unfortunately the operation is exceedingly delicate and difficult. It requires not only experience in adjusting the x ray system to do the work, but it necessitates great care in matching the pastille and entails a thorough knowledge of the disease to enable the operator to map out the scalp so as to include every diseased hair in the exposure.

The chief causes of failure with the method are: (1) Under exposure, accidental or intentional where the scalp has been irritated, so that an imperfect defluvium of the hair takes place and infected hairs are left; (2) omission of a focus of disease in the exposure; and (3) insufficient thoroughness in the after treatment so that infection takes place of unexposed areas as the hairs are falling out.

Certain risks have been cited from time to time in association with this treatment, of which the following are the most important: (*a*) Severe dermatitis followed by permanent baldness; (*b*) permanent baldness without obvious dermatitis; and (*c*) suggested injury to the underlying brain. With regard to these, my experience is confined to the single dosage method—namely, the employment of what may be designated as a Sabouraud pastille dose.

(*a*) *Severe dermatitis followed by permanent baldness over the affected area.*—So far as my own experience goes, I have had only one case of severe dermatitis followed by baldness over a circular exposed area. This unfortunate experience occurred in 1905 in the initial period. The case had been previously treated with iodine, which might partially account for it. Since these early days in 1905 I have had no further unfortunate experience of this nature. There are several possible causes of this accident, but the most common is over-exposure from failure to match the pastille or the use of wrong pastilles; the other causes are the exposure of an area which has been previously irritated by remedies such as iodine or chrysarobin before the inflammation has completely subsided, the use of too large a localiser so that the convex portions of the scalp are too near the tube, the overlapping of exposed areas in a restless child, or the regulation distance of the scalp from the anticathode not being preserved. It might happen, too, through mistake that one of the areas was exposed twice.

It has been asserted from time to time that idiosyncrasy plays an important part in this connexion. This factor in my experience has been greatly exaggerated, and I have been fortunate in not having met with a definite instance of it so far, but one competent authority has told me of a case. It is probably true that fine fair hair requires a smaller dose to bring it out than coarse dark hair, that the hair comes out somewhat more easily in the occiput and about the nape of the neck than in the vertex, and that the delicate hair of a child of four years of age comes out more readily than that of a child of 12 years, but my experience has been almost invariably that an imperfect defluvium has resulted when I have purposely under-exposed a scalp or a part of it. With the apparatus employed running so that a dosage of 15,000 dips of the break is required to turn the pastille there would seem to be, as a rule, a slight margin of safety which compensates for any idiosyncrasy, and if in an individual instance 14,000 might be a sufficient dose to cause the defluvium the extra 1000, though it may cause a transient erythema and bring out the hair more rapidly, does no permanent harm, so that in practice I invariably give a full Sabouraud dose. It would seem, then, that with the single dosage method severe dermatitis is simply the result of over-exposure or of not adhering to the regulation distance of the scalp from the anticathode of the tube—namely, 15 centimetres—and that it ought not to occur. Of course, accidents may happen to anyone and mistakes may be made by the most careful operator, but with proper care these should be most exceptional.

(*b*) *Protracted or permanent baldness without marked dermatitis.*—Cases have occurred in which the regrowth of the hair was much delayed or in which permanent baldness had occurred in the exposed area without any marked inflammatory symptoms. In such cases a cicatricial atrophy of the part occurs with impairment or destruction of the hair papillæ. This is also doubtless due in most cases to over-exposure. I have so far not met with such a mishap, the only instance approaching it being an unfortunate experience in which a small area, of about the size of a shilling, in the centre of a large exposed patch has remained permanently bald. *This occurred like the accident referred to above in* 1905 and was caused by the central convex portion of the exposed area being too near the tube, to the danger of which I was not sufficiently alive at the time. Other instances of this accident may have occurred in my practice of which I am unaware, as it is impossible to follow up all of one's hospital cases and occasionally patients cease to attend as soon as the hair begins to grow again. It has always seemed to me strange that protracted or permanent baldness should not have occurred more often out of the 1500 exposures, when one takes into consideration the facts that alopecia areata not infrequently follows ringworm in the scalp and that this disease seems in many cases to succeed an apparently slight nervous disturbance. The fact that this accident rarely happens shows that the action of the x rays in pastille doses on the hair papillæ is comparatively slight, simply temporarily suspending their function for a few weeks.

(*c*) *The suggested risk of injuring the brain.*—Even if the risks of producing dermatitis and permanent baldness by this mode of treatment were many times greater than they are, it would be a small matter in comparison with injury to the underlying brain were that proved to take place; and if it were definitely established that the treatment by the single dosage method properly carried out resulted in permanent nervous symptoms or in arrest of development, the treatment, in spite of its advantages, would have to be discontinued. This fear, which is a perfectly natural one, and must have occurred to every one employing the treatment, has been fostered in the lay mind by all manner of vague statements, and even by alarming letters in the daily press.

Being alive to such possibilities I have so far avoided exposing a child under three years old, where the skull is very thin and the fontanelles not closed, but I am told on excellent authority that it is perfectly safe to expose even infants. I have closely watched my cases from this point of view and have tried to obtain reliable data on the subject from others who employ the method so as to find out on what these alarming statements have been based. Up to the present time my experience and inquiries on this point have been negative. A search through the literature dealing with the subject has not revealed a case in which injury to the brain or arrest of development has been proved to have directly resulted from the treatment properly applied. It is possible that such cases may exist, and for obvious reasons not have been published, but in the public interest it is of the greatest importance that such unfortunate experiences should be made known to the medical world. On questioning on the subject several of my colleagues who are in charge of skin departments and employ the x ray treatment by the single dosage method I have invariably received answers in the negative. In my own cases I have never seen nerve symptoms suggesting the slightest injury to the brain or arrest in development. By the actual exposure no sensation is produced, and children if placed comfortably on a couch frequently go to sleep during it and wake up fresh and bright. Occasionally on questioning the mother one has been informed that the child complained of a slight headache and was restless for a few hours afterwards, but as a rule this is not the case, and it can be reasonably attributed to the noise and sparking of the apparatus, to the confinement in the hot room for several hours while a number of areas were exposed, and to excitement and fright in the case of a young nervous child. It is not uncommon to find that young children are frightened at first by the noise and sparking, and it may take considerable time and patience to get them quieted down so that they will remain still during the exposure. No sensation is complained of until about the fourteenth day, when the part becomes itchy and feels hot, and a faint erythema may be noted just before the defluvium begins; these symptoms disappear in a few days and no further sensations are experienced. In hospital practice there are great difficulties in following up all the cases but this does not obtain in private practice, and if brain effects had supervened it is most probable that one would have heard of them, and even if they had occurred from some other cause the x rays would possibly have been blamed for them. In several cases boys have been x-rayed a year or more before going up for important examinations, such as the naval examination, and the treatment did not prevent *their passing successfully. In a recent letter* which M. Sabouraud wrote to me on the subject he made the following statement which he has kindly permitted me to quote: "I have never seen any nervous trouble, either passing or permanent, or any arrest of development following applications of the x rays made on the scalp with the dosage employed for the cure of ringworm. This is my opinion after five years' continuous experience, employing the applications daily, and having treated in this manner about 3000 children." This important statement of M. Sabouraud, whose experience probably exceeds that of any-one else, speaks for itself.

It has been stated that nervous derangements, though they do not show themselves about the time of the exposure, may do so at some remote period and may be delayed until the [illegible] shown signs of trouble by this time. There is a consideration, however, which seems to me to argue strongly against the possibility of such a delayed accident, and that is the fact that in connexion with the skin where late developing and slowly progressive dermatitis has occurred, going on to epitheliomatous changes, it has been due to repeated exposure to the rays over a long period. In the case of a single exposure such as is employed for ringworm, on the other hand, the effect manifests itself, if at all, in a fortnight and passes off in a few days, unless the exposure has been excessive, when the effect may appear earlier. That the effect of the exposure to a single full dose is transient is shown not only by the disappearance of the erythema but by the fact that the inhibition of the function of the hair papillæ passes off and regrowth of the hair takes place, and late after-effects do not occur. If these are the effects of a single dose on the skin, which is directly exposed to the rays, the effects on the brain ought to be analogous, only modified so as to be greatly reduced owing to the brain being screened from the rays by the scalp and skull. And if from an exposure to a full dose, or even from a single over-exposure, no signs of brain trouble manifest themselves at the time when an inflammatory reaction might be expected to occur in the meninges—i.e., about the third week—there does not seem to me to be any reason for suggesting that brain symptoms might develop at some remote period, and, so far as I am aware, there is no evidence to that effect.

In what has been stated above all the evidence against the suggested injury to the brain has been of a negative character. So far I have not been able to obtain any positive evidence, and only vague statements have been forthcoming, the foundation of which I have been unable to ascertain. With the object of attempting to settle the matter on a firmer basis than that of negative evidence I have done the following series of experiments which, though not absolutely conclusive, are still of interest in this connexion.

Believing the Sabouraud and Noiré pastille to be a reliable index of the maximum dosage of x rays to which the skin may be subjected without harmful consequences, and knowing that dosage to be sufficient to cause the defluvium of the hair from the exposed areas without so injuring the papillæ that regrowth is prevented, and having found the pastille as supplied and standardised by Drault to be invariably reliable, if used according to Sabouraud's directions, I have employed the pastille in these experiments as a means of [illegible] x rays which can penetrate [illegible] A piece of fresh scalp and the [illegible] ll of a boy ten years old were obtained and employed to screen the pastille from the x rays in the following three experiments. In almost every case the pastille had a piece of thin lead sheeting placed behind it. The exposures were given by the x ray system already referred to, the apparatus being kept running so that the pastille was turned after an average of 15,000 dips of the break as indicated by the speed counter. During the time of the exposure the pastilles were usually covered by a dark velvet cloth, and they were compared with the standard tint in diffuse daylight.

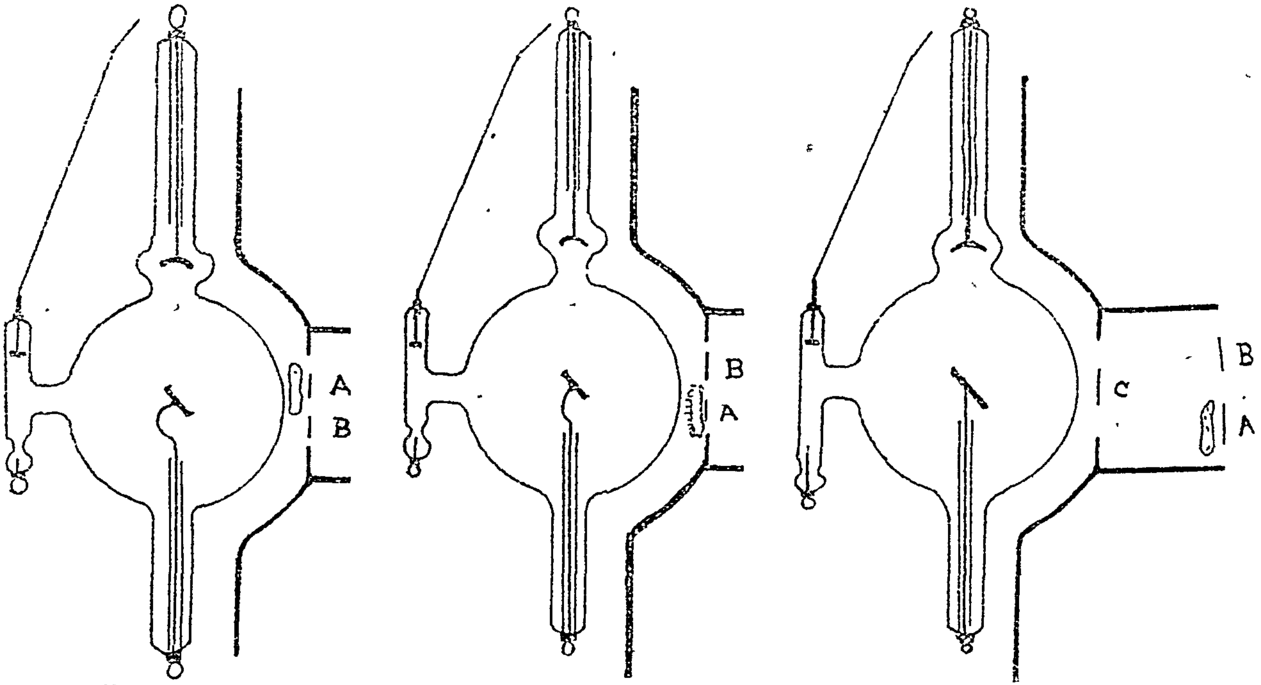
Experiment 1.—In this case a pastille (A) was placed behind the thinnest portion of the parietal bone which was found to correspond in its screening capacity to a layer of aluminium 2 millimetres in thickness, another pastille uncovered (B) being placed alongside as a control. These were both placed at the regulation distance for the pastille, namely, 7½ centimetres—i.e., half the distance of the scalp from the anticathode. It was found that to turn pastille A to the required tint it was necessary to expose two uncovered pastilles B; in other words, that at a distance of 7½ centimetres from the anticathode the thinnest portion of the parietal bone allowed only half the quantity of effective rays to reach the pastille. Pastille A was turned to the standard tint after two pastilles had been exposed at B in 23,000 (the large number being due to the tension of the tube being low at first) and 15,000.

Experiment 2.—In this experiment the conditions were similar to those in Experiment 1, except that a piece of fresh scalp was employed in place of the piece of bone in the case of pastille A. At a distance of 7·5 centimetres pastille A was turned with an exposure of a dose and a half. Pastille B was turned in 13,000 dips of the break, while pastille A required 20,000. The protection afforded by the scalp was such that only about two-thirds of the rays passed through it.

Experiment 3.—In this experiment three pastilles were exposed. Pastille A protected by the layer of bone at a distance of 15 centimetres from the anticathode—i.e., the regulation distance of the scalp—pastille B at the same distance uncovered, and pastille C uncovered at a distance of 7·5 centimetres. Pastille A was turned to the standard tint by 6 pastille doses as indicated at C. Pastille B was turned after 3⅝ pastille doses as indicated at C. This experiment verifies the fact that the effect of the rays on the tissues varies inversely with the square of the distance and emphasises the vital importance of invariably exposing the skin at the same distance. The action on the bone-protected pastille A was slightly more than half that on the uncovered pastille at the distance of 15 centimetres, and did not quite correspond to the result in Experiment 1 where both pastilles were exposed at 7·5 centimetres, but it also showed that the thinnest piece of bone in the skull was in itself sufficient to protect the underlying tissue, so that only about a half of the effective rays reach it. Pastille A turned to standard tint after the exposure of 6 pastilles at C, with the number of dips of the break, 15,000, 15,000, 15,000, 15,000, 15,000, and 14,000. Pastille B turned to standard tint after exposure of 3⅝ pastilles at C, with the number of dips 15,000, 15,000, 15,000, and 10,000.

In these experiments the exposures were made through the thinnest parts of the parietal bone, which was chosen as being one of the thinnest parts of the skull. The amount of protection afforded by it alone was so great that only 50 per cent. of the rays passed through it. In the case of the thicker parts of the same bone the protection is considerably greater and in the thickest parts is almost absolute. The protection given by the scalp is also considerable as it seems to cut off about 30 per cent. of the rays, so that only about 20 per cent. of the x rays penetrate through the scalp and the thin parts of the skull—i.e., one-fifth of a pastille dose—and this amount of rays is still further reduced, if not wholly cut of, by the vascular meningeal membranes.

It might be argued that by the single-exposure method, when two opposite sides of the scalp have to be exposed, the cortex of the brain would be exposed twice, once to the direct exposure and once to the exposure on the other side after the rays had passed through the brain. This is an argument of no practical importance as the radiation from the other side would be greatly reduced in this passage, and when it reached the further side owing to the increased distance its effect would be negligible.



EXPERIMENT 1. EXPERIMENT 2. EXPERIMENT 3.

The letters A, B, and C indicate the position of the pastilles to which reference is made in the text.

Experiment 4.—In this experiment the thin portion of the parietal bone was fixed to the forearm of a young woman and the skin exposed to a full pastille dose at the regulation distance of 15 centimetres. In the part of the skin covered by the bone—that is, the part subjected to half a pastille dose—there was not the slightest apparent effect on the skin, no suggestion of a reaction occurred in the fortnight, nor did the delicate lanugo hairs fall out.

Experiment 5.—This experiment was of another type and consisted of inoculating on maltose-agar diseased hairs which had been subjected to a pastille dose, the stumps being epilated at varying times up to the third week when the defluvium takes place. In every instance, except where the culture had become contaminated, the inoculation resulted in the development of a typical culture of the ringworm fungus. This simply verifies the known fact that the exposure of an affected hair to a pastille dose of the x rays does not kill the ringworm fungus but simply brings out the hair. When one considers the comparative delicacy of the spores and mycelial threads of the ringworm fungus and the fact that it can be destroyed by an inflammatory reaction set up by irritants, the potency of a full pastille dose of the rays, far less a small proportion of one, on living healthy tissue would seem to be comparatively slight.

Though I am aware that in connexion with such exposure experiments certain debateable points arise with regard to the probable existence of x rays of different powers of penetration, hard rays and soft rays, and their respective action on healthy and diseased tissue, still my experience has shown that what we are mainly concerned with in the therapeutic application of the x rays is the quantity of x rays which reach the tissue, and the pastille is a simple and reliable method of estimating it. From these experiments it seems to me that the scalp and meninges so protect the underlying brain that only a small proportion of the dose of x rays, if any, can reach it. This small amount of x rays instead of doing harm may even act as a stimulant to the brain as has frequently been asserted in connexion with small doses of the rays.

In this contribution I have tried to state the position fairly after considerable experience of the method, having encountered many difficulties with it at first and having had many failures before these difficulties were overcome. Where the chief disappointments have been met with has been in the cases in which under-exposures have been given purposely or inadvertently, or where a small affected area was missed out, or where the after-treatment between the exposure and the defluvium was carelessly carried out. I have avoided discussing such questions as the relative effect of the x rays on the skin and deeper structures, such as nerve tissue, but I fully concur with the opinion that doses of x rays such as are employed in the treatment of ringworm, though they affect the skin, do not cause appreciable changes in such tissues as nerve, muscle, and fibrous tissue, which are much more resistant to the rays.

In conclusion, my experience since 1905 has led me to the belief—

1. That the x ray treatment of ringworm by the single-dosage method with the dosage regulated by the pastille is practically safe and harmless.

2. That it is a method of treatment of such delicacy that even in the hands of an experienced operator an accident such as an over-exposure might happen, but that such accidents should be of such extreme rarity as not to discredit a mode of treatment possessing such obvious advantages.

3. That severe dermatitis followed by permanent baldness is the result of an over-exposure or is due to some accident such as the exposing of an area the resistance of which has been lowered by the previous application of strong irritants before the inflammation has entirely subsided, the use of wrong or inaccurately standardised pastilles, or from overlapping.

4. That permanent baldness or delayed hair-growth without marked dermatitis is the result of over-exposure, but that it might in rare instances be due to some idiosyncrasy on the part of the patient in the same way as the occurrence of alopecia areata after ringworm.

5. Finally, I have been unable to obtain any definite evidence of injury to the brain by this method of treatment from my own cases, from the literature on the subject, or from anyone with experience of this treatment whom I have asked, and the experiments which I have done in this connexion strongly negative the possibility.

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THE HISTOLOGY OF RHEUMATIC ENDOCARDITIS.

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WHILE examining a number of inflamed and otherwise diseased hearts I have made sections of a dozen or more valves showing evidences of recent or old "rheumatic" endocarditis, and also of spots of mural endocarditis found accidentally during a thorough examination of the muscular walls of an acutely inflamed "rheumatic" heart. The cellular changes noted in these sections have not differed much from those usually described in text-books, but their mode of origin and sequence seems to me to be other than that often taught. The word "rheumatic" is here used to cover all cases of "acute simple" endocarditis and the valvular fibrosis resulting therefrom.

In rheumatic endocarditis we meet with both kinds of inflammatory reaction—that characterised by the formation of new cells from those already existing in the inflamed tissue, and that in which the cells "resisting" infection are imported by the circulation from other parts. Both kinds are present, but the proliferative factor is far more important and characteristic than the exudative.

In all cases of acute rheumatic endocarditis the dominant feature of the histological picture is the presence of certain cells which are almost certainly the outcome of proliferative activity in the local tissues. These cells are identical with those fully described in recent papers on rheumatic myocarditis.[1] They are larger than ordinary fibroblasts, which in their shape they resemble. Sometimes, as a result apparently of degenerative changes, they are swollen and rounded. About one-third or one-half of these cells are multinuclear, the number of nuclei not exceeding six or seven. These nuclei stain very well at their periphery and in the centre, the resulting impression being that of a sharply defined rim inclosing a clear space in the midst of which are several deeply stained dots. The cytoplasm stains deeply and uniformly, especially with basic dyes. These large cells are gathered together into groups or tracts into which other cells enter scarcely at all. In cases of destructive or malignant endocarditis groups of such cells are not seen. Their distribution in the valve is of two kinds. First, they may lie in nodules in the deeper parts of the valve or even in the centre of one of the chordæ tendineæ. In these nodules, which are especially plentiful in valves vascularised by previous inflammation, there is often a central area of slightly granular material staining well with eosin, inclosed within a ring of the characteristic cells. Secondly, they may form layers along the surface of the valve without dipping deeply into its substance; such layers correspond in area with the patches of fibrin deposited on the surface of the valve. In one valve a group of these cells lay just beneath the surface without any lesion of the endothelium.

But it is the position occupied by these cells in the patches of mural endocarditis referred to above that is peculiarly enlightening. Just as in the intermuscular connective tissue so also in that immediately beneath the pericardium and the endocardium we find nodules such as I have described in former papers.[2] These appear to express the inflammatory reaction provoked locally by the impact of rheumatic micro-organisms borne into the cardiac wall by the coronary arteries; and their histology is the same, whether they are intermuscular or subendocardial. When a nodule arises under the endocardium certain changes follow in the neighbouring area of serous membrane. My sections fortunately provide a complete series of pictures of these changes. First there is the formation of a localised patch of œdema just beneath the endothelium. Lymphocytes appear in this patch and the building of new capillaries is soon visible. [illegible] leaves an "ulcerated" surface through which a few lymphocytes escape, while upon it fibrin is heaped up, sometimes separated from the endocardial surface by a layer of leucocytes chiefly of the polymorphonuclear type. This leucocytic covering is more likely to be found in endocarditis of the ventricular recesses than on the valves, probably because the greater stagnation of the blood stream favours it. Stems of newly formed capillaries may grow out into the fibrinous mass from their endocardial roots, but the presence of fibrin is not essential to their formation.

Inflammatory exudation in rheumatic endocarditis takes the form of lymphocytosis—that is to say, one can say confidently that in rheumatic endocarditis, as in myocarditis, the majority of the leucocytes are mononuclear. They are scattered sparsely through the valve, with greater concentration at some spots; not even at such spots, however, are they densely crowded, and there seems to be no certain connexion between these more infiltrated areas and the fibroblastic zones. There is, however, another form of leucocytosis sometimes found in rheumatic endocarditis. Over those surfaces where the fibroblasts are plentiful and the endothelium stripped off polymorphonuclear leucocytes are sometimes deposited freely, especially on the patches of mural endocarditis. Judging from appearances, these are derived from the blood passing through the cavities of the heart, for they are plentiful on the endocardial surface but are scarcely found at all beneath it. We may therefore draw a contrast between the moderate diffuse lymphocytosis seen in all cases of rheumatic endocarditis and the intense but localised polymorphonuclear leucocytosis seen on surfaces which have lost endothelium; in the first the cells come from the coronary blood, in the other from the intracardiac blood.

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[1] Brit. Med. Jour., vol. ii., 1907, p. 1513; Quarterly Journal of Medicine, October, 1908.

[2] Ibid.

The changes that remain after acute inflammation has cooled down can be summed up in two words—fibrosis and vascularisation. The valve is thickened chiefly but not solely at its free edge; the proximal part near the attachment of the flap is found thickened at any rate in the more advanced fibroses. New vessels are sown plentifully throughout, and even when the valve is suffering an early stage only of what seems to be the first inflammation there is quite a number of new capillaries to be seen in it. When there is a re-infection of a valve already vascularised by a bygone inflammation fibroblastic nodules are more thickly distributed in the central parts of the valve than in cases which appear to represent an earlier phase of endocarditis. It seems, therefore, that each fresh inflammation increases the total thickening and deformity of the valve in a geometrical rather than an arithmetical progression, for each attack not only adds its quota to the sum total of fibrosis but also by increasing the blood-vessels in the valves lays it more open to further invasion.

Two important conclusions are, I believe, warranted by a consideration of the above facts with others bearing upon the subject.

1. *The type of inflammatory reaction* seen in rheumatic endocarditis is a very characteristic one. Compare it, for instance, with that seen in a valve invaded by pneumococci. In this latter the cellular reaction is exudative mainly, and the great majority of the exuded cells are polymorphonuclear leucocytes; proliferation plays quite a subordinate part. In rheumatic endocarditis there is much proliferation, the cells found being larger and more often polynuclear than in most fibroblastic reactions; the cells exuded are few in number and chiefly mononuclear in type. The two kinds of reaction are separated by a cleavage which goes to their foundations, and it seems likely that the infective agents responsible differ as essentially.

2. The micro-organisms of rheumatism (for while there is still disagreement as to the actual form of the causal agent, no one can doubt that rheumatism is a microbic disease) are carried to the valve by the coronary blood and not by that flowing through the chambers of the heart. Judging from a perusal of modern text-books, most persons still believe that organisms are deposited upon the valves, like castaways on the banks of a flood, by the blood that hurries through the heart at a high speed; that they are given a firmer "foothold" by the phagocytic action of the endothelial cells. This hypothesis is palpably improbable, but the alternative or embolic theory of endocarditis has always been met by the retort that embolism of cardiac valves cannot occur, since in the normal state they have no blood-vessels. The argument in favour of the embolic or coronary theory can therefore be arranged under three heads.

(*a*) There is evidence to show that *the inflammatory reaction of rheumatic endocarditis begins deeply and spreads to the surface.* The characteristic fibroblastic reaction may be seen sometimes in the deepest parts of a valve even when it has not been vascularised by a previous inflammation. In some of my sections areas of this kind are seen in the very centre of chordæ tendineæ. Further, the patches of mural endocarditis described in this note show a sequence of events just like those in the valves, starting with the formation of a nodule in an obviously direct connexion with the coronary blood-supply. If this is what takes place in the mural endocardium there is likely to be a similar beginning in an inflammation of the valves, since in both the later developments of the process are so closely alike. Again, we know that in about two-thirds of all cases of rheumatic endocarditis the pericardium is also inflamed, and it has been shown[3] that in practically every case the myocardium exhibits the very same type of fibroblastic inflammation. No one will suggest that these changes are produced by any other than a coronary infection, especially when we take into account the occasional discovery of fibroblastic foci in the walls of the coronary arterioles in cases of rheumatic carditis, and the very constant affection in similar cases of that part of the aorta which is supplied from the coronary arteries. Now, if in these cases every other part of the heart is infected with organisms borne into it by the coronary vessels, is it likely that the valves alone are infected at the same time and apparently by the same kind of bacteria in a different way?

Once more, if we look upon endocarditis as due to microbic invasion of the valve from the coronary circulation, we see at once one reason why the destructive types of inflammation choose valves previously damaged by rheumatism for their site. It is because rheumatic inflammation has left the valve thoroughly permeated by permanent blood-vessels, which will admit organisms to the depths of the valve in larger numbers than into a normal non-vascular valve.

(*b*) *The other, "castaway," hypothesis is wildly improbable.*—Suppose for a moment that the blood flowing through the heart were saturated with virulent micro-organisms, ready to settle on the endocardium and multiply there; would they be likely to settle on the valves, which lie right in the midst of the strongest and most direct of the intracardiac currents? Surely they would rather choose the auricular and ventricular recesses, the inlets and bays of the endocardial coast line; and we should find mural commoner than valvular endocarditis. But even allowing for the difficulty of excluding the presence of mural endocarditis by a naked-eye examination, we can be sure from experience that it is not so common as valvular inflammation, for this latter occurs in practically every case of rheumatic carditis (88 per cent., according to my own necropsy figures; 99·3 per cent., Lees and Poynton[4]).

(*c*) *The non-vascular nature of the valves does not upset the coronary theory.*—Those who believe that the valve, having no blood-vessels, cannot be invaded from its base by bacteria must explain how its tissues are nourished and also where the lymphocytes come from in rheumatic endocarditis. They must also account for the presence of micro-organisms in other non-vascular structures—for instance, the spirochæta pallida in the cornea in cases of congenital syphilis.

This is an old controversy, and some of the arguments may have done duty before, but some are new; and it has been my intention to set down in black and white a personal impression derived from independent observation and free, as far as possible, from the influence of prejudice.

Summary.—1. The reaction to rheumatic invasion of the endocardium is characterised by the formation of large fibroblasts in groups and zones, which, so far as my experience goes, are constant in rheumatic but absent from other forms of endocarditis. 2. The valvular inflammation of rheumatic carditis is set up by micro-organisms carried to the endocardium by the coronary arteries and their branches

I wish to thank my colleagues at the General Hospital, Bristol, and Dr. Reginald H. Miller, medical registrar to St. Mary's Hospital, London, for material, and also Professor I. Walker Hall for the use of the pathological laboratory, University College, Bristol.

Clifton, Bristol.

A SIMPLIFIED METHOD OF X RAY APPLICATION FOR THE CURE OF RINGWORM OF THE SCALP: KIENBÖCK'S METHOD.

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DEPILATION by means of the x rays is now fully established as the most satisfactory method of treatment for ringworm of the scalp. Briefly, the treatment consists in temporarily depilating the affected area or areas, each by a *single* measured dose of x rays, and thus, mechanically, and without actually killing the fungus, eradicating it from the areas exposed. By the introduction of the pastille of Sabouraud and Noiré as a means of measurement of dosage, in trained hands, the dangers of the treatment have disappeared. One disadvantage it still has, namely, the length of time occupied by the actual exposures to the rays, and any means of shortening this period must be welcomed by all who have many such cases to treat, more especially in hospital or institution work. In a large majority of cases it is found necessary to irradiate the whole scalp. By Sabouraud and Noiré's well-known method with circular localisers from 10 to 12 exposures are necessary in order to x ray the whole scalp, and reckoning only 15 minutes for each exposure and a certain time for adjusting the localisers for each area, the time occupied in x raying the whole scalp is from three and a half to four hours. By a method which has been largely used in this country, and which I have myself employed for the past five years—namely, that of dividing the scalp into rectangular areas and irradiating each area (surrounded by a lead-foil shield) in succession—the time may be reduced to from two and a half to three hours.[1]

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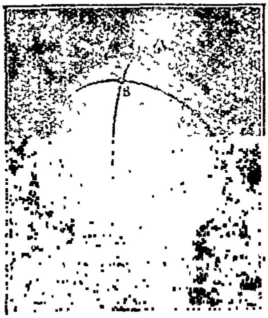
[3] Quarterly Journal of Medicine, October, 1908.

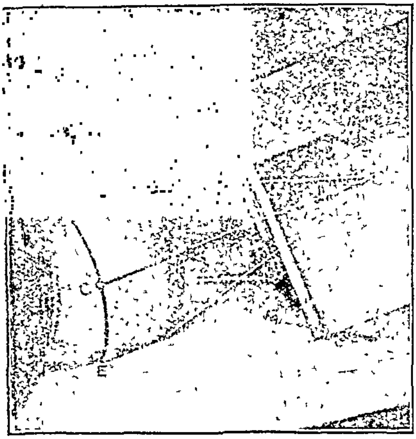
[4] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxi., p. 419.

FIG. 1.



T[illegible] and L.

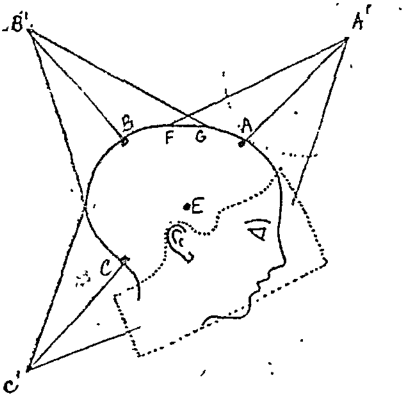
FIG. 2.



Reproduction of photograph showing [illegible] shield in position [illegible] when C is [illegible] (The pegs here shown were found to be somewhat too thick and have since been made more slender.)

By the method which I am now about to describe the number of exposures necessary to depilate the whole scalp is reduced to five, so that it is possible to irradiate the whole scalp in one and a half hours. This method was employed for the first time, I believe, by Kienböck, in Vienna, for the treatment of cases of favus and also in a few ringworm cases. Its essential features are that no cylindrical nor lead-foil localisers are used, but that adjacent x ray applications are made in such a manner that at those parts where overlapping does occur the incidence of the rays is so oblique and so much further from their source that no excessive dose is given. I have now used this five-exposure method in 75 cases with perfect results[2]; every part of the scalp has received an even radiation, and the hair has fallen completely without any sign of overlapping margins or areas with non-fallen hairs as evidence of insufficient exposure. In the earlier cases of this series the regrowth of the hair has been normal over the whole scalp, and the absence of any sign of erythema in the later cases makes it certain that they will follow the normal course, and that in due time, that is to say, in about eight weeks from its fall, the hair will begin to grow again.

FIG. 3.



(1) P[illegible] (3) [illegible] tect the ear and face when point [illegible] is x-rayed.

The details of the method as I have employed it are as follows:—1. The hair is clipped short over the whole head to facilitate operations. 2. Five points are marked on the scalp with a blue skin-pencil as follows:—

In the middle line.	Point A,	1½ to 2 inches behind the frontal margin of the hairy scalp.
	" B,	1 inch to 1½ inches above the centre of the flat area which forms the upper part of the occiput.
	" C,	just above the lower border of the scalp at the lower part of the occiput.
At the sides of the scalp.	Point D,	on the *right side just above and in front of* the ear
	" E,	on the left side just above and in front of the ear

Measured with a tape-measure the distance between any two of these five points should be exactly 5 inches. 3. The five particularly in diseases due to internal parasites, such as bilharzia, ankylostoma, and trichinæ. In trichinosis the eosinophile leucocytes may reach a percentage (of all leucocytes) of 40 to 80. Here we had one of 31 per cent., which pointed strongly towards trichinosis, as the other conditions where eosinophilia is present could be excluded. Consequently, Dr. Harris felt justified in setting in motion the sanitary machinery, with the result that Dr. L. P. Black, acting medical officer of health of St. Thomas's rural district, discovered the actual salted pork of which this man had partaken, and on Feb. 21st we examined this together and found many trichinæ among the muscle fibres. A fresh specimen made by teasing or crushing the muscle and examined under a very low power, 70–100 diameters, shows the parasites very distinctly. In the pig as a rule the capsules are not calcified and hence are not visible to the naked eye. Later I made permanent specimens by embedding in paraffin and staining with hæmatin solution and eosin, the worm taking the hæmatin and the muscle the eosin. Frozen sections are no use as the worm drops out. To get a good specimen it is important that the sections are fairly thick.

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[1] Treatment of Ringworm of the Scalp by the X Rays, THE LANCET, June 24th, 1905, p. 1715. In the method described in this paper the scalp was divided into four areas. It was soon found, however, that it was better to divide the scalp into eight areas.

[2] In four or five cases only has there been incomplete fall of hair on certain parts of the scalp—in two cases from precautionary underdosing because a new installation was being tried, and in the rest because the wooden pegs used to keep the scalp at the proper distance were rather too thick.

On Feb. 26th I made a differential leucocyte count from a blood film taken from another patient, from the same farm, who had also eaten this pork. This was a woman under the care of Mr. C. Fenwick of Dunsford, who kindly supplied me with the film. A differential count gave the following result: polymorphs, 39 per cent.; lymphocytes, 24 per cent.; large mononuclears, 3·5 per cent.; and eosinophiles, 33·5 per cent.; a very similar result to the first case. This patient had been taken ill about the same time and had suffered from rheumatic pains and an elevated temperature, and at first had been supposed to be suffering from acute rheumatism.

In order to prevent the spread of the disease the Board of Agriculture was communicated with by Dr. Black, and an inspector was sent down to investigate the farm and its surroundings. He was fortunate in finding a dead rat on the farm. On examining its muscles it was found to be teeming with trichinæ. It may not be generally known that pigs will often kill rats, which are the normal host of the trichinæ, and probably have no objection to eating them, and hence become infected. Rats travel long distances looking for food in the country, and farms remotely situated may thus become infected. The Local Government Board has also made itself interested in this small epidemic, and in company with Mr. G. C. Hancock, one of its inspectors, I examined pork from neighbouring farms and the muscles of a rat caught for the purpose, but without results.

This outbreak of trichinosis shows the importance of bearing this disease in mind when cases occur with symptoms of pyrexia and muscular pains where the diagnosis is doubtful. If it had not suggested itself to Dr. Harris as a possibility in the case in the hospital, the epidemic, if one may so call it, would certainly have remained undiscovered. The differential blood count is also most important, and the large eosinophilia was so suggestive of trichinosis that it justified further steps being taken to find out whether the pork was infected or not.

Exeter.

CALCIUM LACTATE IN THE TREATMENT OF EPILEPSY.

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FOR some months I have been treating several epileptics with calcium lactate. The improvement in these cases since they were put on the drug is sufficiently marked to justify my recording the facts, as I have not heard of its being used before in the treatment of epilepsy. All the patients under this treatment have improved—some more so than others. They are all in an epileptic ward, where both day and night they are under constant supervision by nurses accustomed to recording epileptic seizures, so that complete reliance may be placed on the number of fits recorded. Reference to two of the more successful results obtained may perhaps persuade others to give the drug a trial.

CASE 1.—The patient was a female, married, aged 46 years; menstruation had ceased. She had had no family. There was no history of syphilis. She is said to have had a fright 17 years ago, followed by a slowly progressive right-sided hemiplegia, and two or three months later by fits. In December, 1908, her condition was as follows. She was quite lost to her surroundings, dirty in her habits, childish, incoherent, noisy, and spiteful. She showed little or no signs of right-sided paralysis, except slight swinging of the right leg whilst walking. The knee-jerks on the two sides were equal. She was having three to five fits in every 24 hours, most of them in the day-time.

The type of fit is a *petit mal* or "sensation." The attack starts by the patient screwing up her face; she then throws herself backwards and wriggles or rolls, making at the same time a bellowing noise. There is a momentary loss of consciousness but no actual convulsions and no cyanosis. The duration of the fit is less than 30 seconds.

On Dec. 19th, 1908, the patient was put on calcium lactate, 15 grains three times a day, and the following is a copy of the record kept:—

	Number of fits.		
	Day.	Night.	Total.
During the week ending Dec. 26th	34	11 =	45
" " " " Jan. 3rd	22	9 =	31
" " " " Jan. 10th	16	10 =	26
" " " " Jan. 17th	19	5 =	24
" " " " Jan. 24th	18	4 =	22
" " " " Feb. 1st	16	5 =	21
" " " " Feb. 8th	16	4 =	20
" " " " Feb. 15th	25	8 =	33
" " " " Feb. 22nd	24	10 =	34
" " " " March 1st	24	3 =	27
" " " " March 8th	21	4 =	25
" " " " March 15th ...	15	3 =	18
" " " " March 22nd ...	14	0 =	14
" " " " March 29th ...	0	0 =	0
" " " " April 5th	0	0 =	0
" " " " April 12th	0	0 =	0
" " " " April 19th	0	0 =	0
" " " " April 26th	0	0 =	0
" " " " April 27th to 30th	0	0 =	0

She has also improved mentally, and now does a little polishing in the ward.

CASE 2.—The patient was a female, aged 33 years, single; she menstruated regularly. No history was obtainable except that she had been in lunatic asylums for epileptic insanity since 1894. In January, 1909, her condition was as follows. She was lost to her surroundings, had no memory, and was very dull and confused. She was in fair bodily health. She was having from three to five fits in every 24 hours, most of them in the day-time. The number of fits had not changed appreciably during her menstrual period.

As regards the type of fit: 1. Many of her fits are "sensations." If standing up she suddenly collapses and falls to the ground; if sitting down she "jumps" and falls off her chair. Recovery is immediate. 2. Some of her fits are typical, strongly marked major epilepsy with general convulsions, loss of consciousness, cyanosis, biting of the tongue, and frequently cutting of the chin, eyebrows, or nose on the ground.

On Jan. 7th, 1909, she was put on calcium lactate, 15 grains three times a day, and the following is the record of fits since:—

	Number of fits.		
	Day.	Night.	Total.
During the week ending Jan. 14th	27	4 =	31
" " " " Jan. 21st	19	4 =	23
" " " " Jan. 28th	11	4 =	15
" " " " Feb. 4th	5	3 =	8
" " " " Feb. 11th	5	1 =	6
" " " " Feb. 18th	9	1 =	10*
" " " " Feb. 25th	7	3 =	10
" " " " March 4th	3	2 =	5
" " " " March 11th ...	2	1 =	3
" " " " March 18th ...	5	2 =	7*
" " " " March 25th ...	3	1 =	4
" " " " April 1st	1	3 =	4
" " " " April 8th	0	0 =	0
" " " " April 15th	1	1 =	2
" " " " April 22nd	0	2 =	2*
" " " " April 28th	0	3 =	3
" " " " April 29th and 30th	0	0 =	0

* Menstruating.

TWO CASES OF TRAUMATIC SEPARATION OF THE UPPER MANDIBLE.

BY WILLIAM BLIGH, M.D., B.S. LOND.

CASE 1.—On Nov. 30th, 1896, a friend and patient of mine, aged 41 years, on returning from a day's shooting was seated in a wagonette driven by a coachman. The horse bolted down a steep hill into a village and threw the coachman off the box seat. My friend, fearing for the safety of others in the village street, pluckily made an attempt by climbing over the box seat on to the horse to get command of the reins and stop the animal. He, however, fell and crashed on to the ground on his face. He was not concussed, but bled a good deal from the nose and mouth. I saw him about an hour after and found his entire upper jaw freely moveable both laterally and from before backwards, the entire mandible being apparently hinged on to the articulations of the nasal processes of the two superior maxillæ with the frontal bone. The hard palate, the nasal bones, and the nose all moved in one piece with the two superior maxillæ. There was no escape of cerebro-spinal fluid, no sign of brain injury, no hæmorrhage into either orbit, or interference with the lacrymal ducts, and very little pain or extravasation into the soft parts; in fact, my friend was so little hurt that he exhibited his new accomplishment of wagging the whole front of his face to and fro with no little pride and humour.

Treatment consisted in keeping the lower jaw firmly pressed against the upper with a plaster bandage, and gentle syringing of the nasal cavities and washing out of the mouth with an antiseptic wash. The range of movement in the mandible steadily became less and less, and within from three to four weeks the jaw was firmly fixed once more. Some not very severe neuralgia of the right infra-orbital nerve, probably produced by pressure of callus, came into evidence at the end of the second week, and lasted for about a fortnight.

CASE 2.—A woman, aged 33 years, was driving a spirited pony in a governess cart on Jan. 4th, 1909, when the animal bolted and dashed into another cart. The woman was flung out violently upon her face. I saw her within a few minutes of the occurrence and found her concussed but not deeply unconscious, in fact in a typical state of cerebral irritability. There was fairly free hæmorrhage from the nose and mouth, the left upper central incisor was found loose inside the cheek and the other left upper incisor had been knocked out but was missing; several teeth on the left side of the lower jaw were much loosened, the left lower central incisor was hanging quite loose and the right lower central incisor was turned almost completely round in its socket. The lower jaw, however, was not broken. As in Case 1, the upper mandible was quite loose in one piece and could be moved freely laterally and from before backwards hinging upon the articulations of the nasal processes of the superior maxillæ with the frontal bone, in which position crepitus could readily be detected. The soft parts of the face and the eyelids were much swollen from blood extravasation. The nose and the palate moved with the mandible. On the next day the whole face was enormously swollen, neither eye could be opened and the general aspect was that of a more or less shapeless pudding. There was no escape of cerebro-spinal fluid and no paralysis of nerves, but oozing of blood from the anterior and posterior nares continued for several days. As soon as the eyelids could be opened much subconjunctival ecchymosis could be seen but it was not wedge-shaped and evidently came from the eyelids and not from a fracture involving the anterior fossa of the skull.

The condition of moderate concussion continued for several days but no symptoms of anxiety supervened, the swelling of the face gradually lessened and the mandible steadily became more fixed, so that three weeks after the accident the jaw was nearly immoveable. On account of the state of the mouth and teeth no attempt was made to fix the fracture, the jaw was gently pressed into good position and antiseptic washes were used as in the first case.

The exact line taken by these fractures posteriorly is impossible to determine without dissection, and I do not think that a radiograph would help greatly. The malar arches in each case were intact, the separation taking place at the junctions of the malar processes of the superior maxillæ with the maxillary borders of the malar bones. In both cases the separation above took place at the articulations of the nasal processes of the superior maxillæ with the frontal bones so that the upper mandible carrying the nasal bones with it hinged upon the root of the nose just below the glabella. With these (the four main stays of the upper mandible) gone very little additional force would complete the bony loosening of the jaw, as is seen in removal of one upper jaw, where, when one superior maxilla is sawn apart from its fellow, it is only necessary to saw through the nasal process and the junction with the malar to remove the bone by rocking with lion forceps.

Judging from the second case, no treatment aimed at steadying the fracture seems necessary; nature is so kind to wounds about the face, owing to the plentiful blood supply, that the mobility of the mandible rapidly diminishes and union becomes firm without any aid from the surgeon.

Caterham Valley.

A CASE OF PULMONARY TUBERCULOSIS TERMINATING WITH ACUTE STREPTOCOCCAL MENINGITIS.

BY ERIC H. R. HARRIES, M.B., B.S. LOND.,
LATE SENIOR RESIDENT MEDICAL OFFICER, VICTORIA HOSPITAL FOR CHILDREN, CHELSEA.

A GIRL, aged 13 years, was admitted to the Victoria Hospital for Children, Chelsea, on Dec. 12th, 1907, with the following history. Six months previously she had had pneumonia, her mother not being certain whether it was "double" or confined to the left side. Since that time she had not been out of bed for longer than periods of a week or so at a time. Whenever she did get up her temperature was found to rise to 101° or 102° F. She frequently coughed up "blood and matter." She had coughed up similar material on the morning that she was brought to the hospital, and also 11 days previously. Before coughing up the sputum she would have attacks of pain in the left side sometimes accompanied by shivering. There was profuse perspiration at night. Since the attack of pneumonia the mother had noticed the girl to have a swelling in the neck and also to be losing her hair. She had menstruated regularly since the previous June, the last "period" being three weeks before admission. The only thing of note in the patient's previous history was that she had had, when seven years of age, an "open" tenotomy of the right sterno-mastoid performed for torticollis. The parents were both healthy and there was no history of tuberculosis in the family.

Physical examination.—The patient was a tall, thin girl, somewhat anæmic. The sexual features were well developed,
anc
old
of
in volume and regular. Tremors and exophthalmos were absent. The physical signs in the chest, on admission, were flattening of the percussion note over the apex of the right lung anteriorly and also over the posterior surface of almost the whole of the left lung. Over the right upper lobe the tactile vocal fremitus was distinctly increased. On auscultation, air entry into the upper lobe of the right lung was found to be diminished. Expiration was prolonged. A few crepitations could be distinguished. Beyond the flattened percussion note and a poor air entry nothing further was made out in the left lung. Examination of other systems was negative.

Subsequent course.—On Dec. 14th (two days after admission) the patient coughed up some sputum containing nummules and streaked with bright blood. At 6 P.M. the temperature was 99·4° and she complained of pain in the left side and in the region of the heart. On the 15th a smear preparation of the sputum was stained by the Ziehl-Neelsen method and counterstained with methylene blue. Tubercle bacilli were found, together with definitely capsulated diplococci morphologically resembling pneumococci. Some scattered micrococci were also seen. Unfortunately, no cultures were made to decide definitely upon the nature of the cocci. On the 18th the catamenia commenced. The general condition of the patient had improved. The enlargement of the thyroid had subsided somewhat.

five by seven inches, in which it was of a dead white colour without a single spot of purpura. It was a most remarkable appearance: the outlines were sharply defined and the skin was smooth, not raised. Here where he had put a large mustard-leaf was the only place in which the skin of the body looked natural; everywhere else it was either deeply congested or hæmorrhagic.

The patient died 15 minutes after our visit. On Feb. 24th he had taken a long bicycle ride, and on the 25th he had felt tired. On the 26th he consulted Dr. Brock who found the temperature to be 99·4° F. and the pulse 84. On the 27th the temperature was 100·8° and the patient had great pain and stiffness in the muscles and he had incessant vomiting, for which he had applied the mustard-leaf. In the evening he seemed worse and later very suffused, but there was no purpura. There was a little blood in the vomitus and in the urine. On the morning of the 28th Dr. Brock was shocked to find him with purpura, and he had had bleeding from the stomach and kidneys. The vomiting and the muscular pains suggested the possibility of malignant small-pox, but there were no papules about the forehead or wrists, and so far as he knew he had not been exposed.

The case comes in the category of the severe purpura hæmorrhagica of unknown origin. The feature of special interest is the absence of purpura in the limited area of skin upon which a blister had been applied. The stimulation of the mustard had altered in some way the capillary walls, rendering the cells insusceptible to the endotheliolysis, which (as in the snake-venom experiments) we may suppose to be the primary change, under the influence of some unknown poison.

Oxford.

CASE OF CEREBRAL HÆMORRHAGE FOLLOWED BY HYPERPYREXIA AND DEATH.

BY VINCENT P. NORMAN, L.M.S.S.A. LOND.

THE following case may prove of some interest, being, as it was, followed by hyperpyrexia—a clinical fact not often recorded if we judge from a perusal of literature bearing on the subject. Dr. William Osler in his text-book on medicine mentions that in basal hæmorrhage "the temperature may be high," and other authorities, while making the same statement, do not say as to how high the temperature has been known to rise. Hence my reason and apology for recording the following case.

In the present instance the patient, aged 52 years, was of powerful build and plethoric appearance. The history obtained was that up till the age of 36 years he had been a rigid teetotaler, when he gave way to alcohol and had been drinking steadily ever since until about six months before his death. During the last 15 months he had had in all three "strokes," very mild in character and all of which appear to have cleared up completely; his fourth and last attack occurred on July 28th, 1908, leaving behind it left-sided hemiplegia and incontinence of both urine and fæces. When the patient came under my observation on July 31st I found his left arm and leg completely paralysed. He was conscious but appeared to be dazed and answered indistinctly and in monosyllables when spoken to and only after the question had been repeated several times. His temperature on July 31st at 2 P.M. was 100·4° F., the pulse being 78, and the respirations 24 per minute. On the evening of the same day I was asked to go and see him again as he had taken a turn for the worse. On feeling his skin I was at once struck by the sensation of extreme heat imparted to the hand. The pulse was of low tension and 130 beats to the minute; the respiration had risen to 36, and the temperature taken in the axilla was 108·4°. As the patient was in evident grave danger I decided on trying the effect of cold as a means of reducing the temperature. It was found impossible to move the patient out of bed into an iced bath as he was fully 18 stones in weight, so I got a mackintosh under him and wrapping him in a sheet sprayed it all over with iced water, lumps of ice being left between the sheet and the patient's body. At the same time he was fanned vigorously so as to cause rapid evaporation. At the end of one hour the temperature had fallen to 104°, and the pulse was still rapid and perceptibly weaker. The cold spraying was continued and a hypodermic injection of one-thirtieth of a grain of strychnine hydrochloride was given; the pulse improved somewhat. An hour later the thermometer registered 101·2° in the axilla, the pulse was 100, and the respirations were 34 per minute. The application of the cold water was now discontinued, the patient dried rapidly and was covered with a light dry sheet, another hypodermic injection of strychnine being given. I now proceeded to examine the lungs for possible pneumonia but could detect no signs of such a condition; the cardiac sounds were weak, a blowing systolic murmur being audible in the mitral area. The temperature was now taken at intervals of an hour and showed a steady rise, till by midday on August 1st it had risen to 107·6°. The application of cold was resorted to again with the result that by 2.30 P.M. the temperature had fallen to 102·4°; it, however, soon after began to rise again, and when I saw the patient at midnight he was very weak and obviously sinking fast. The axillary temperature was 108·6°, the rectal 109°, the pulse was scarcely perceptible at the wrist and so rapid that it could not be counted, and the respirations were Cheyne-Stokes in character. It was clear that nothing more could be done. However, I continued the sponging with iced water and packed the patient around with ice and gave him one-twentieth of a grain of strychnine hypodermically, but he in no way responded to the treatment and died at 1.35 A.M. on August 2nd, the axillary temperature just before death registering 109°.

In the above case a point of some interest was the rapid rise of the temperature and its equally rapid fall under the influence of cold, the latter causing a drop in the first instance of something like 7° in two hours and again of 5°, although just before death supervened the temperature remained unaffected by the treatment. Unfortunately the exact seat of hæmorrhage could not be accurately localised, post-mortem examination being unobtainable.

Stoke Newington.

NOTES ON TWO CASES IN WHICH THE APPENDIX WAS PRESENT IN A HERNIAL SAC ON THE LEFT SIDE.

BY OWEN RICHARDS, M.CH. OXON., F.R.C.S. ENG.,

SURGEON TO KASR-EL-AINY HOSPITAL, CAIRO.

IN THE LANCET of Jan. 9th, 1909, p. 100, Dr. A. D. Griffith describes a case in which he found the appendix in a left inguinal hernia in a woman, and gives references to the literature showing that this condition is extremely rare. For this reason it may be worth while to record two similar cases, not otherwise remarkable, which I have recently seen.

The first case was one of left-sided inguinal hernia in a man, aged 45 years, who was operated upon in April, 1908. Symptoms of strangulation had existed for three days before admission to hospital. A big tense sac occupied the scrotum and on clearing and opening it I found the cæcum, the appendix, and parts of the ileum and ascending colon. The colon had a distinct mesentery. The whole was returned, the opening was closed in the usual way, and the patient made a good recovery.

In the second case the patient, a man, aged 40 years, was operated upon in September last by my assistant surgeon, Dr. Aly Bey Ibrahim. There was a large irreducible inguinal hernia which filled the left side of the scrotum and contained the cæcum, the appendix, parts of the ileum, the ascending and transverse colons, and a quantity of omentum. A good deal of omentum was removed and the operation was completed in the usual way. The patient went home healed a fortnight later.

Neither case showed any obvious abnormality, and in both there was noted to be a distinct mesentery. Both patients were Egyptians.

In three cases in which I have recently found the cæcum and appendix in a hernia on the right side two were instances of hernia by *glissade*. In the third case, in which the hernia was strangulated, the colon possessed a mesentery which was attached higher up the abdomen. In one of these cases the distended cæcum lying in the scrotum had been previously diagnosed elsewhere as a hydrocele and tapped, with disappointing results. Fortunately, it was adherent and no harm resulted.

Kasr-el-Ainy Hospital, Cairo.

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SURGICAL SECTION

Jejunal and Gastro jejunal Ulcer following Gastro jejunostomy —Auto inoculation and Reinfection of Syphilis

A MEETING of this section was held on May 11th, Mr J WARRINGTON HAWARD being in the chair

Mr HERBERT J PATERSON read a paper[1] on Jejunal and Gastro jejunal Ulcer following Gastro jejunostomy, with notes of two cases in one of which gastric analyses were made before and after operation for jejunal ulcer, with an abstract of 61 further cases and observations thereon He said that notwithstanding all that had been written in recent years on the subject of gastro jejunostomy there remained at least one problem in connexion therewith in need of further investigation and elucidation The fear of the possible occurrence of a jejunal ulcer still casts a shadow, faint it was true, over the otherwise admirable results which follow this operation when performed in appropriate cases It was of the utmost importance that all instances of this condition should be published, in order that they might have all the available material from which to draw conclusions as to the etiology of this condition, as to the best methods of preventing it and of treatment should it occur The notes of the following case which had been under his care were of interest, as it was, so far as he could gather, the first case in which an attempt had been made to obtain an accurate analysis of the gastric contents, and of the fluid escaping from a jejunal fistula before and after operation for ulcer of the jejunum The case was one of anterior gastro jejunostomy for pyloric stenosis, perforation of a jejunal ulcer five years later, resection of affected portion of jejunum, and anterior gastro jejunostomy ' en Y " The patient was a married woman, aged 47 years who was admitted into the London Temperance Hospital on August 21st, 1902, under the care of Dr W Soltau Fenwick, suffering from pain after food vomiting, and loss of flesh The patient stated that she had always been healthy until two years previously, when she began to suffer from pain after food which gradually increased in severity, and she had lost three stones in weight For one year she had suffered from vomiting usually two or three times weekly, large quantities of partially digested food being brought up On admission the patient was much wasted and weak, and weighed 6 stones 5 pounds instead of 9½ stones The stomach was markedly dilated, the lower border reaching a hand s breadth below the umbilicus There were constant visible peristalsis and a marked succussion splash At the level of the umbilicus close to the outer border of the right rectus muscle there was a hard moveable lump rather larger than a walnut There was a marked free hydrochloric acid reaction in the stomach contents after a test breakfast, and also in the contents of the fasting stomach Lactic acid was not present Dr Fenwick thought that the dilatation of the stomach was due to cicatricial stenosis of the pylorus and asked Mr Paterson to see the patient with a view to operation The patient declined to have anything done and left the hospital on August 27th On Sept 6th the patient returned, looking a good deal worse and stating that she had been vomiting constantly She had lost over four pounds in weight and now readily consented to operation On the 8th he opened the abdomen The stomach was large and much hypertrophied In the region of the pylorus was a densely hard mass of about the size of a walnut and situated mainly in the posterior wall There were no adhesions and the lump was freely moveable Anterior gastro jejunostomy was performed by means of a single layer of Halsted sutures, the opening The pylorus was explored complete, stricture was f uninterrupted recovery and left the hospital three weeks later This was one of his earlier gastro jejunostomies, and he must admit that at the operation he thought the pyloric lump to be malignant, and he proposed to reopen the abdomen, remove a portion of the lump for microscopical examination, and if, as he anticipated would be the case, the lump were malignant perform partial gastrectomy Clearly he was wrong in his opinion, but fortunately the patient felt so well that she declined to have any further operation Two years later, in August, 1904 he saw the patient again She then told him that she had never had a day s illness or pain of any kind and that she was able to eat ordinary food She looked a different being and weighed 9 stones 4 pounds a gain in weight of over 3 stones The abdominal wound was soundly healed and no trace of the pyloric lump could be felt On August 13th, 1907, the patient was readmitted into the hospital She stated that ever since the operation she had enjoyed excellent health Two years before readmission she began to have some pain after food, but the pain was not severe and did not cause her much inconvenience During the previous nine months the pain had increased, nevertheless she continued to eat all kinds of food cheese, tinned foods, &c For three months the patient had noticed a lump forming in the abdominal wall above the umbilicus On August 13th the skin over the lump gave way and much yellowish fluid escaped She was seen by Dr Percy Edmunds, who at once sent her into the hospital The patient looked exceedingly well and had become very stout and weighed over 12 stones Midway between the umbilicus and the ensiform cartilage, immediately to the left of the middle line, was an aperture in the abdominal wall with shelving indurated edges from which escaped a turbid yellowish fluid apparently containing bile Around the aperture there was considerable induration and the skin for some distance around was much thickened A diagnosis of perforated jejunal ulcer was made As the patient was so well nourished it was thought advisable to postpone operation with a view of getting the skin into a more healthy condition and also of reducing the gastric acidity and rendering the intestinal contents sterile by keeping her on an exclusively milk diet This period of waiting was utilised to make a series of examinations of the gastric contents and of the fluid escaping from the fistula The examinations were as follows —August 20th, test breakfast One hour later the stomach contents drawn off 110 cubic centimetres Total acidity, 85, total chlorides, 0 433, free HCl, 0 072, protein HCl, 0 208, mineral HCl, 0 153 During the digestion of the test breakfast and for half an hour later the fluid escaping from the fistula was collected and analysed with the following result Total chlorides 0 405, free HCl, 0 044, protein HCl 0 175, mineral HCl 0 186 On August 27th, after the patient had been on a milk diet for a week, the analysis of the gastric contents was as follows Total acidity, 80, Gmelin s reaction absent total chlorides 0 361, free HCl, 0 018, protein HCl, 0 187, mineral HCl, 0 146 At the same time 60 cubic centimetres of fluid were collected from the fistula Gmelin s reaction present, total chlorides, 0 372, free HCl 0 004, protein HCl, 0 092, mineral HCl 0 276 Sept 3rd 70 cubic centimetres of fluid were collected from fistula Total acidity, 60 total chlorides 0 401, free HCl, 0 004 protein HCl 0 109 mineral HCl, 0 292 At the operation on Sept 5th 1907, an oval incision was made through the skin around the fistula and carried downwards through the fasciæ and muscles The peritoneum was cut through in the middle line well below the fistula and a finger was introduced into the peritoneal cavity The jejunum was found adherent to the abdominal wall for some distance on either side of the fistula The fistula was plugged with gauze and the peritoneum carefully cut through clear of the area adherent to the jejunum It was then apparent that the fistula led directly into the efferent limb of the jejunum one inch below the site of the anastomosis with the stomach Six inches of jejunum, including the perforated ulcer and the skin attached to it, were resected After separating the jejunum from the stomach the opening in the stomach measured one inch by half an inch This opening was enlarged and the distal end of the jejunum was implanted into it and the proximal end of the jejunum was implanted into the side of the jejunum four inches below the anastomosis with the stomach Both anastomoses were performed by means of two continuous pressure of a fluid flowing through a tube could arise from contraction of the tube was altogether ignored by Crile, and some of his supporters had even said that it was not so, that the pressure was as high as, some said much higher than, that in the narrow part of the tube, forgetting that it was a difference of pressure that made a fluid flow. The fact that the blood was in an enclosed space must not be forgotten. The effect of this was that although contraction of a vessel tended to lower the blood pressure within it because the fluid flowed, yet the blood must collect somewhere, and naturally it was found in the weakest part of the vascular system, i.e., in the large veins. This accounted for the raised pressure in them which did not exist in the pithed animals and which was not accounted for by Crile's theory. Roy and Adami showed that peripheral irritation not only contracted the arteries but also increased the force of the ventricular contractions, and Eugene Boise, of Grand Rapids, Michigan, had pointed out that as shock increased the heart action became more limited until its dilatations were so small that it could not take up and propel sufficient blood into the aorta, the pressure then fell and the blood accumulated in the veins. Crile's explanation that the heart could not get sufficient blood because of the low pressure in the veins was considered unsatisfactory and irreconcilable with his previous statement that the veins were engorged. Whether the vessels were dilated or contracted in shock changes of calibre certainly occurred and the conditions necessarily returned to the normal during recovery. Hence it was necessary to divide the treatment of shock into two stages, first to prevent change and later to promote a return to the normal. Crile taught that the vessels dilated as shock progressed and should be filled with fluid and contracted if possible. Mr. Malcolm held that the vessels contract in shock, that the fluids were squeezed out of them and removed from the body as sweat. Hence vaso-dilators and sedatives should be given as shock developed, and the administration of fluids was necessary in the stage of recovery. In support of this last view Crile was quoted to the effect that as shock deepened the quantity of fluid that could be taken into the veins became progressively smaller, and that in deepest shock fluid so injected escaped into the tissues almost immediately. Mummery had confirmed these views, which did not seem to support his contention above mentioned that the volume of the blood naturally increased in shock. On the other hand, in the days when fluids were rigidly withheld after operations patients often remained in a state of profound shock for many hours. Now it was known that a free administration of fluid was all that was necessary to insure prompt recovery in an uncomplicated case. The evidence seemed complete that in shock fluids were removed from the vessels and from the body and had to be replaced before recovery was possible. Hence endeavours to force blood into the veins in the stage of developing shock were considered useless and dangerous. When the vessels relaxed the danger of collapse was great. Vaso-dilators were then unnecessary and increased the danger unless fluid was also supplied. Hence it was desirable to introduce fluid in anticipation of the necessity for it, and the dangers of venous injection could be avoided by introducing the fluid into subcutaneous tissue, the rectum, or the peritoneal cavity. The employment of vaso-constrictors when the arteries were empty and would not dilate or would not remain dilated was considered irrational, whilst alcohol was considered useful and undoubtedly improved the pulse in that stage. The action of strychnine had been condemned by Crile because when convulsions were prevented by curare in repeated doses it produced a rise of blood pressure followed by a fall until the condition of low pressure in shock was brought about. Here again the possibility that strychnine might stimulate an intense arterial contraction which reduced blood pressure by narrowing the vessels was altogether ignored and the conclusion was arrived at that strychnine paralysed the vaso-motor centres. The improvements of the methods of administering anæsthetics, the disuse of irritating antiseptics, the use of the Trendelenburg position, and the anticipation of septic and inflammatory troubles by improved diagnosis and prompt treatment were important measures for preventing shock. The greatest danger arose in septic cases in which the vascular changes of shock were already partially produced. In such cases fluid was required as a food and never less than during an operation. It should therefore be given subcutaneously during or even before a surgical procedure was commenced to replace fluid lost and to fill up vessels whenever they tended to relax. The treatment of septic peritonitis by continuous rectal injections was explained in a similar way. In such cases there was always a free discharge from the peritoneum for from 12 to 30 hours after the operation if recovery ensued. This drained the body of fluid, and if the loss was not made good the patient could not recover but died partly from shock and partly from sepsis.

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[1] The expenses of the investigations referred to in the course of the paper were defrayed by a grant from the Science Committee of the British Medical Association

Mr. C. R. B. Keetley said that shock was less seen now because of the care taken to prevent hæmorrhage, to keep the patient warm, and because of the substitution of ether for chloroform. He deprecated the extent to which strychnine was used in the operating theatres.

Mr. A. Pearce Gould said there were three elements of primary importance in the treatment of shock: external warmth, rest, and a small dose of morphine. He agreed that the hypodermic injection of strychnine was useless.

Dr. Alexander Morison pointed out that shock passed off when the power of the heart's action returned; the application of warmth or the inhalation of amyl nitrite quickened the action of the heart.

Mr. V. Warren Low spoke of intravenous saline injection in very severe degrees of shock.

Mr. Lockwood raised the question of the definition of shock and described an instance in which the administration of oxygen produced an amelioration of the condition after other remedies had failed. He had seen gangrene follow injections of brandy and ether into the tissues.

Mr. Malcolm said his remarks referred to conditions of shock produced gradually in a prolonged operation. He thought shock was due to the contraction of the vessels and that it killed slowly; syncope occurred when the vessels were relaxed when there was not enough blood to fill them. In regard to the injection of fluid into a vein he said that Crile's view was that if saline solutions were injected into a vein in conditions of shock the fluid merely passed into the tissues.

Mr. T. H. Kellock read a paper on Associated Disease of the Vermiform Appendix and Fallopian Tubes, which was discussed by Mr. Charles Ryall, Mr. Malcolm, Mr. William Rose, and Mr. Lockwood.

OPHTHALMOLOGICAL SOCIETY.

Tubercle of the Choroid.—Spring Catarrh.—Atropine and Refraction Work.—Exhibition of Instrument and Cases.

A meeting of this society was held on May 6th, Mr. R. Marcus Gunn, the President, being in the chair.

Dr. G. Carpenter read a paper entitled, "'A Clinical Contribution to the Study of Tubercle of the Choroid." The first patient, under Dr. J. Porter Parkinson, aged seven years, had been getting thinner. He was admitted to hospital with physical signs at the right apex, front and back. There was a history of abdominal pain, but no cause for it could be discovered by palpation. The child then became drowsy and comatose, with great wasting. There were six choroidal tubercles and flecks of retinal pigment were scattered about them. Three of the tubercles were crossed by retinal vessels. The second patient, a girl, aged two years, had been ailing six weeks and had had sickness and headache five days. When admitted she was suffering from meningitis, and died on the sixth day. The right fundus was normal and no tubercles or optic neuritis could be seen, but on the left side there was slight papillitis. Close to the optic papilla was a tubercle of considerable size, and several blood-vessels crossed its face. The retinal arteries were small; nothing was noticed about the veins. The surface vessels of the brain were congested. The diagnosis was verified at the necropsy. The next case was that of a boy, aged 17 months, who had much the same physical signs. He had meningitis, which was later corroborated by lumbar puncture. Another case was that of a boy, aged two years, who had had a bad cough five weeks and when admitted had consolidation at both apices. There was a small amount of papillitis in both eyes. He died 12 days after admission, no changes having occurred in the fundus in the meantime. Several other cases of the kind were recorded, and Dr. Carpenter then proceeded to discuss the readiness which had been shown to attribute such appearances to syphilis, whatever evidence to the contrary might have existed. He urged early and systematic ophthalmological examinations, which would often render unnecessary spinal punctures, or injections of substances to induce reactions.—The paper was discussed by the PRESIDENT and by Dr. FREDERICK E. BATTEN, the latter gentleman commenting on the comparative infrequency of tubercle of the choroid in tuberculous children, and stating that he was under the impression that spinal puncture afforded a more certain indication than ophthalmoscopic observation.—Dr. CARPENTER replied.

Mr. J. MACKENZIE DAVIDSON and Mr. ARNOLD LAWSON communicated a paper entitled, "A Case of Spring Catarrh Treated and Cured by Radium." The patient was a boy, aged 12 years, who suffered from chronic photophobia, lacrymation, and slight conjunctival discharge which had persisted for nearly a year; but no exciting cause could be discovered. Both tarsi were covered with dense hard excrescences, closely aggregated, and separated by deep narrow fissures. The retrotarsal tissue was swollen and hypertrophied and the viscid discharge was spread over the conjunctival surface. The disease was confirmed by examination of the discharge. The irritability was chiefly marked in the morning. He was ordered complete cessation from close work and dark glasses for out of doors. Yellow mercuric oxide was used, but no benefit resulted, and it caused too much pain. A week later he had cupric sulphate drops of a strength of one grain to the ounce. In August the boy went to the seaside against Mr. Lawson's advice and got worse there. Bicarbonate of soda and hydrocyanic acid gave relief and weak copper sulphate drops were used from time to time still. He then consulted with Mr. Mackenzie Davidson as to the possibility of treating the case with radium. It was carried out for a year, during which period each eye was treated eight times. No pain or other immediate effect was produced but the granulations gradually subsided. After the eighth application he was quite cured, but the interval before reading the communication was to make quite sure there had been no recurrence for a good [illegible] were used for 15 minutes [illegible] Mr. Lawson thought that [illegible]ose of radium was better [illegible] a weaker quantity.—Mr. [illegible] the case, pointing out the importance of being sure that the strength of radium used was what it was said to be, as he had found serious discrepancies. It was also very important to cut off those radium emanations which were not needed in the cure.

Mr. R. R. CRUISE read a paper on the Abuse of Atropine in Refraction Work. The paper was based on the examination of 140 eyes under 16 years of age. He concluded that, on the whole, homatropine and cocaine were quite equal if not superior to atropine, though in most cases the result after the two mydriatics was identical.—The paper was discussed by Mr. S. STEPHENSON, Mr. N. BISHOP HARMAN, and Mr. C. DEVEREUX MARSHALL, the latter of whom alluded to Mr. W. Lang's investigations on the matter; and Mr. ERNEST CLARKE said it would have been useful to learn what the astigmatism was in the cases.

Mr. M. S. MAYOU read a communication on the Disappearance of the Iris from the Pupillary Area following Injury.

Major R. H. ELLIOT, I.M.S., exhibited Instruments: (a) An Evisc[illegible] use in the opera[illegible]) an Elevator for [illegible]

Mr. STEPHENSON *showed a case of Congenital Anterior Staphyloma in a baby, who also had absence of patellæ,* [illegible]es. [illegible] pear- [illegible]

Mr. E. TREACHER COLLINS showed a case of Nodular Leprosy affecting the Eyes; also a case of Progressive Bilateral Ptosis.

UNITED SERVICES MEDICAL SOCIETY.

Physical Training and the Medical Profession.

A MEETING of this society was held on April 14th, Colonel D. WARDROP, A.M.S., being in the chair.

Surgeon KENELM DIGBY BELL, R.N., read a paper on Physical Training and the Medical Profession. After lamenting the national tendency to "specialise" in modern sports and to neglect the well coördinated training of the body and the mind the speaker said: "It must be our duty to ensure that some sound method of physical education is universally adopted to encourage the building up of a healthy body to keep in touch with the rapid growth of mental education. The true object of physical training should be to increase the strength, agility, and power of endurance of our boys and men. By 'strength' I do not mean large muscular development (as is so commonly understood) but an even balance of work between every organ and function of our body, striving to produce an all-round man. We must endeavour to build up the feeble to a good medium of health and strength; we should strive to diminish annually the number of social wasters which the modern conditions of life tend to increase. Discretion and experience warn us of the error of acrobatic sights which pervert public spirit. The results of physical training lose their interest if instead of benefiting the mass they serve to form certain athletes to satisfy the vain curiosity of the crowd. In the Services the need for some daily routine of exercise to keep the men fit and ready for any duty they may be called upon to do, without strain to their individual economy, has been recognised for some years now and the schools of physical training at Portsmouth and Aldershot turn out annually officers and men [illegible] sioners of the Admiralty, as [illegible] Training School at Portsmou[illegible] still employed, and also had [illegible] course of instruction at the [illegible] Stockholm last year. The fact that I was in attendance as honorary medical officer at the Olympic games in London last July gave me a further advantage, as I seized every opportunity of studying the types of physique of the various nations competing and the different systems of gymnastics performed by the teams at the Stadium. My constant endeavour has been to study the various exercises from the practical as well as the theoretical point of view in order to learn what is being taught and to feel the effect of the exercises on myself personally. I am fully convinced that the best method for conducting the physical training of numbers of boys and men is on the lines of the Swedish system of gymnastics." Surgeon Bell then proceeded to describe the general principles of that part of the system employed in the navy and army schools—namely, educational gymnastics—of which the three fundamental characteristics were: (1) the nature and intention of the exercises; (2) the progression of the exercises; and (3) the definite arrangement of the exercises in the daily lesson. Every exercise had a special physical effect embodied in it, which was chiefly dependent *on the changes, produced* in accordance with the laws of physiology, in the organs of locomotion taking part in the movement and in those parts of the nervous system which were called into play by it and each exercise was practised solely to produce that effect. There were some 900 to 1000 distinct exercises *in the system and the combination* of those was almost infinite, so that there was large scope for variety and individuality. The progression of the exercises had been so carefully thought out and described that the whole training could be carried out by persons of any age or special requirements without overstrain or damage. The exercises should be graduated and the so-called position of attention should be gradually reached by careful training and [illegible] found to [illegible] The [illegible] be [illegible] ovided [illegible] for the all-round development of every organ and function of the body. A certain definite order was employed based on [illegible]t several [illegible] her and [illegible] muscles [illegible] had been concentrically contracted for any period of time they were at once extended by the exercises which immediately followed and in this way their full capacity of action was assured which kept them supple and expansile instead of allowing them to remain shortened and fixed as was often the case when their contra[illegible] Great attention was paid to the [illegible] resilient chest in the youn[illegible] life, so that the breathing might be free at all times and the fixed condition of the chest—so common from older forms of gymnastics—might be prevented. No exercise was applied for developing big and fixed muscles, so the overstrain attending such attempt was avoided. The qualities aimed at in this direction were suppleness, coördination, smart reaction, and agility. A great and obvious advantage was embodied in the fact that the exercises could be performed in the open air when the atmospheric condition of the English climate permitted it. This system of gymnastics had been employed for some years now in nearly every nation in Europe. Partly owing, no doubt, to the fact that England has offered a free dumping ground for numbers of so-called professional experts to practise their various methods of physical culture, and to advertise these methods as treatment for the cure of all sorts of diseases, the mention of physical training had come to have an echo of charlatanism attached to it. Too little interest was taken in the subject by the majority of the medical profession. Surely a cause with such grand principles as physical training on sound lines offered had need of the guidance and interest of medical men to keep it on sound lines and to ward off any taint of quackery from accompanying it. Setting aside the great benefits to be derived in the future by endeavouring to build up the physique of the race to-day, a man who kept himself fit or who was kept fit by regular exercise, had an active and clean mind, was temperate in his habits, and took a pride in himself and his surroundings. Surgeon Bell concluded his remarks with an appeal to medical men to study and spread the knowledge of this important branch of science.

The discussion which followed had reference to the position of attention, the effects of urban life on development, thebenefits of physical training in schools and of universal military training, specialising, the effect of physical training on mental capacity, the defects of the Swedish system, and the contamination of systems by quackery.—Lieutenant-Colonel M. W. H. RUSSELL, R.A.M.C., Dr. W. P. HERRINGHAM, Dr. GILMOUR, Lieutenant-Colonel C. H. MELVILLE, R.A.M.C., Major C MOORE, Dr. M. S. PEMBREY, Lieutenant-Colonel H. E. DEANE, R.A.M.C., Lieutenant COOKE, R.N., Lieutenant-Colonel A. B. COTTELL, R.A.M.C., and Fleet-Surgeon G. T. COLLINGWOOD, R.N., were among the speakers.

In his reply, Surgeon BELL maintained that although the ideal state of affairs would be for each person to train himself physically on his own individual lines, this was impossible in the Services to-day, and a system was absolutely necessary for the physical training of numbers of boys and young men. On the subject of specialising, the speaker explained that he would be the last person to do otherwise than encourage sports as long as there was an element of all-round training embodied in them, but that he could not get away from the fact that we were as a nation carrying competition too far. He advocated general training on rational lines without undue enthusiasm in competition having for its object the development of an all-round man.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.—The Histology of Accessory Sinus Suppuration.

A MEETING of this society was held on May 5th, Dr. JAMES RITCHIE, the President, being in the chair.

At the private business M. Metchnikoff was elected an honorary member, and Professor C. F. Martin of McGill University, Montreal, and Professor L. F. Barker of the Johns Hopkins University, Baltimore, were elected corresponding members.

Dr. BYROM BRAMWELL exhibited: 1. A case of Scleroderma of the Hands and Lower Parts of the Forearms in a stonemason. The characteristic hide-bound condition of the skin was evident. The integuments were so tightly stretched that movements were impeded and when the hands were cold they felt like those of a frozen corpse. He had seen the same condition in four or five other stonemasons and stated that it was due to holding the cold chisel in cold weather. The patient had been treated by injecting fibrolysin and with improvement so that the skin on the back of the hand could be pinched up and the hands felt less cold. Although the injected material was absolutely sterile he had observed a rise of temperature to 104° F. and with rigor after each injection, though in a case of disseminated sclerosis there was no rise during a period of many injections, but hyperpyrexia followed the subsequent injections. 2. A case of Functional Nervous Disease treated by isolation, faradism, and the hypodermic injection of water. The case occurred in a girl, aged 12 years. Some years previously she had been bitten on the leg by a dog, and every night at 7.30 or 8 P.M. she had a recurrence of the pain, this corresponding to the hour at which the dog had bitten her, and she then assumed the same position as when she was bitten The pain was so severe that beads of perspiration came out on her forehead. The treatment had effected a complete cure.

Dr. NORMAN WALKER showed: 1. A case of Acanthosis Nigricans. This was a rare condition, only some 30 cases having been recorded since the first in 1889. It consisted in a peculiar change and proliferation in the layer of prickle cells of the skin, leading to warty growths and a plush-like condition with pigmentation of the skin. The patient was a washerwoman and the disease had lasted eight years. The disease was most frequently associated with malignant disease, but in one or two cases in younger persons this was not seen. It was not due to disease of the suprarenal glands and treatment did not seem to have much effect. 2. A case of Pityriasis Rubra Pilaris. This was a disease peculiarly difficult to influence, but this case had been greatly benefited by hypodermic injections of soamin and the patient increased one stone in weight. Dr. Walker had always thought that lichen planus had a relation to syphilis and hence the use of soamin. 3. A case of Lichen Scrofulosorum treated with cod liver oil externally and given internally. 4. A case of Lupus treated by the local application of tuberculin. In experimenting with Pirquet's test he had vaccinated over lupus patches and so produced very considerable reaction. A 5 per cent. Koch's old tuberculin in vaseline was employed and in one or two days the part became very painful and the reaction continued for a considerable time. It caused, however, the disappearance of a very great deal of disease and had dissipated the fibrous tissue, so allowing of a free movement of the elbow and right arm, which were affected in this patient. A 10 per cent. solution of old tuberculin in saline solution was tried on two patches, with the result that the lupus nodules were eaten out as by salicylic acid. In another case of lupus on the face and arm there was very violent local reaction and a very disagreeable smell was produced, but after cessation of reaction the absorption of nodules went on most satisfactorily. Very little difference was observed in the reaction between bovine and human tubercle in Pirquet's test.

Professor F. M. CAIRD showed: 1. A man, aged 39 years, after ligature of the right subclavian for Axillary Aneurysm. A large pulsating mass had existed for two years with pain in the elbow and shoulder and loss of power in the hand. As the condition was progressing the subclavian was ligatured it its third portion. The case had progressed very satisfactorily and there was no return of pulsation in the axillary or radial arteries. It would be necessary for him to take care of his hand for some time. 2. A case after operation for Internal Strangulation. The diagnosis was made of appendicitis with perforation, but on operation the intestines were found in normal condition, but there was a constriction of the jejunum by a loose strand of fibrous tissue which contained a well-marked artery. 3. An Elephantiasis-like Condition of the Left Leg Produced by Bier's Method of Passive Congestion. This treatment had been advised for tuberculous disease of the knee-joint, but the patient had kept on the bandage for three days and three nights applied at the middle of the thigh. The leg was enormously increased in bulk and pitted on pressure. A mass of lymphatic glands could be felt in the groin passing up into the saphenous opening.

Mr. HAROLD J. STILES showed: 1. A woman after Pylorectomy for Chronic Ulcer of the Stomach. She had suffered from chronic dyspepsia for many years, with continuous pain, but without bleeding or any special symptoms. A small, indurated, but moveable swelling was present in the pyloric region. The diagnosis was made of carcinoma of the pylorus, but neither at the operation nor after the pyloric portion had been removed and slit up was it possible to say whether the ulcer was simple or malignant The microscope showed later that the ulcer had become carcinomatous A gastro enterostomy was performed and now, five weeks later, the patient remained well For 20 years she had complained of gastric symptoms, great acidity, and hunger pain relieved by eating a crust of bread It might be advisable to remove very chronic ulcers 2 A Specimen of Extensive Tuberculous *Disease of the Glands on Both Sides of the Neck* Removed by Operation

Mr J W STRUTHERS showed a child, aged 17 months, after operation for head injury An hour after falling out of a go cart violent clonic spasms of the entire right side developed and continued As the child was obviously dying a flap of scalp and bone was turned down on the left side of the skull and large amounts of fluid escaped on opening the dura The convulsions at once ceased and have not returned

Dr J S FRASER read a paper on the Histology of Accessory Sinus Suppuration He said that the accessory sinuses of the nose were developed by the absorption of the cancellous bone in the superior maxillary, sphenoid, ethmoid, and frontal bones respectively, and the invasion of the spaces so formed by hollow ends of mucous membrane from the nasal cavities It was important to note that the accessory sinuses were lined by mucous membrane continuous through the ostia with that of the nasal cavities, it seemed probable that the mucosa of the sinuses would take part in any changes which the nasal mucous membrane might undergo The communication was meant to show that the changes in the mucous membrane of the accessory sinuses were analogous to those which occurred in the nose in catarrhal and suppurative conditions and in the middle ear cleft in catarrhal and suppurative otitis media, and that the condition of "catarrh' passed insensibly into the condition called "suppuration' [illegible] the accessory sinuses [illegible] e of the cavities they [illegible] very badly situated [illegible] accessory sinuses was described and was compared with that present in acute and chronic inflammation In one case of *acute sinus suppuration* the prominent microscopical feature was the extensive hæmorrhage in the submucous tissue and the engorgement of the vessels Small cell infiltration *was not so marked as in chronic cases and the* œdema was slight The superficial epithelium was almost normal In *chronic inflammation* a thick layer of catarrhal or purulent secretion was present It was remarkable how often the superficial layer appeared to be normal although there were marked changes in the submucous tissue The ciliated layer was often absent in parts and leucocytes could be seen making their way between the epithelial cells to the surface, there to mix with the mucous secretion to form the muco purulent or purulent secretion Both mono and polymorpho nuclear cells might be seen and occasionally eosinophiles in the same situations As the quantity of mucus poured out in the sinuses was scanty, and *the leucocyte exudation relatively* great, the discharge was more definitely purulent in contrast to the muco purulent discharge from the nose In three out of nine antral cases examined the superficial cells were more of the squamous than of *the cylindrical type*, and in none of his specimens did the loss of superficial tissue extend deeper than [illegible] was not met with [illegible] it membrane was, [illegible] of chronic [illegible] usually much in- [illegible] conditions, due [illegible] r engorgement and small cell infiltration This led to a widening of the delicate connective tissue network, so that large spaces were formed filled with serum The process was similar to the formation of nasal polypi in the middle turbinal and in the inferior turbinal in so called "chronic hypertrophic rhinitis" The small cell infiltration varied greatly in situa*tion, degree, and character of the cells The great majority of* the cells were lymphocytes The gland ducts in the submucous tissue might be dilated and filled with mucus, degenerated cells, and leucocytes *Cysts were occasionally* found in the submucous tissue filled with homogeneous colloid material and lined by cubical cells The great dilatation of vessels characteristic of acute inflammation was not present in chronic cases to the same extent Thickening of the vessel was observed in one case and in another hyaline change The small cell infiltration was usually very marked round the vessels and old hæmorrhages were not infrequently seen in the submucous tissue as well as deposits of pigment In eight ethmoidal cases *examined osteoclasts were found in* only one instance Bone disease might be present, but it was not an essential change in accessory sinus suppuration and was due to the spread downwards of the inflammatory process In no single case did Dr Fraser find micro organisms in the tissues, although numerous sections of all the cases were examined after staining by Gram s method in addition to the ordinary stains In the discharge lying on the surface organisms could occasionally be seen In nasal polypus and in inferior turbinal hypertrophy the essential condition was one of chronic inflammatory œdema or serous exudation into *the connective tissue spaces under* the basement membrane, the leucocyte infiltration was slight, while the superficial epithelium was as a rule practically normal In ozæna, on the other hand, the change in the superficial epithelium was very marked, large tracts being converted into squamous epithelium and keratinisation of the superficial cells was sometimes present, the glands were atrophied, and there was intense leucocytic infiltration of the submucous tissue, while œdema was absent In the accessory sinuses similar changes might be met with as Dr Fraser found in two of his cases On the other hand, the majority of cases which required radical operation showed changes that corresponded more closely to such conditions as suppurative rhinitis or ozæna Dr Fraser believed that the latter was merely an advanced stage of the former, and he strongly suspected that cases of catarrh of the accessory sinuses were much more common than were usually supposed and that the position of the ostia, while it rendered infection *of the mucosa of the sinus difficult, also* tended to prevent the spontaneous cure of a severe sinus infection Dr Fraser thought that it was possible to show that the changes in the accessory sinuses were similar to those in the nose and that the difference between catarrhal and suppurative processes was only one of degree and that *there were borderland cases In conclusion, Dr* Fraser suggested that in the classification of acute and chronic simple inflammatory processes in the upper respiratory tract (including the middle ear cleft) it would be well to consider the changes not only in the submucous *tissue but also in the epithelial covering Under the* heading of "catarrh' might be included cases with œdema of the submucosa, with little or no alteration of the superficial epithelium and only slight leucocytic infiltration of the submucous tissue Under the head of "suppuration" might be included four more or less distinct conditions (1) cases with little or no œdema and only slight epithelial changes, but with marked leucocytic infiltration, (2) cases similar to the above except that the epithelium had undergone metamorphosis or was almost entirely absent over large areas, (3) cases with marked œdema and leucocytic infiltration but with slight epithelial changes, and (4) cases with marked œdema and leucocytic infiltration but with extensive *changes in the epithelial layer —Dr P* MCBRIDE, Dr A LOGAN TURNER, and Mr HENRY WADE took part in the discussion

Specimens were exhibited by Mr J M COTTERILL, Dr ALEXANDER BRUCE, and Mr *STILES*

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY —A provincial meeting of this society was held at Torquay on May 8th —At 5 P M the Fellows were received at the Natural History Museum by Dr T Horton, President of the Torquay Medical Society, and by many members of the profession of Torquay Dr Horton in a short speech, gave a welcome to the society, and the President, Dr E Solly, returned thanks —Dr Thomas Dunlop medical officer of health of Torquay, read a paper on the Climate of Torquay —The President proposed, and Dr Orwin seconded, a vote of thanks to Dr Dunlop —Dr G W Hamilton *Cumming* then gave directions as to the points of interest in the town —In the evening the Fellows dined together at the Grand Hotel The company numbered about 40 Fellows and ladies and about 40 members of the profession of Torquay, as well as the Mayor, Colonel Spragge; the lord of the manor, Colonel Carey; and the President of the Natural History Society, Major Elwes.—The toast of "The Town and Corporation and Medical Profession of Torquay" was proposed by the President and responded to by the Mayor and Dr. Powell.—The toast of "The Society" was proposed by Dr. Horton, and was responded to by Dr. Leonard Williams and Mr. C. R. B. Keetley.—An excellent concert and conversazione followed the dinner.—On Sunday, May 9th, the Fellows were taken for a long drive on Dartmoor, passing through Bovey Tracey, and took luncheon at the Watershed.—After luncheon the President proposed, and Dr. J. Braithwaite seconded, a vote of thanks to the medical profession of Torquay, especially to those who had taken a very active part in the reception, including Dr. Hamilton Cumming, Dr. Dunlop, Dr. W. W. Stabb, Dr. W. Odell, and Mr. H. K. Lacey.—Mr. Lacey replied.—The party on the return journey took tea at Chudleigh.—The meeting was a great success and proved most enjoyable and instructive.

Reviews and Notices of Books.

The Interpretation of Radium. By Frederick Soddy, M.A. With illustrations. London: John Murray. 1909. Pp. 256. Price 6*s.* net.

This book contains the substance of six lectures delivered at the University of Glasgow last year, and, as might be expected from the fact that the lectures were free, popular in character and illustrated by experiments, the collected work supplies the answers to a number of questions which many interested and intelligent persons will be found daily asking as to the kind of investigation which has led to the present position of radio-active studies, and as to the meaning of the new terms employed in radio-active parlance. The science is a new one and its votaries have really had small opportunity of rendering a coherent account of the results attained or of offering an intelligible interpretation of them to the layman. Besides, the pursuit of the study has opened up such a fascinating experimental field as to have rendered its investigators breathless, so to speak, and powerless to generalise upon the advances made. But what was at one time an almost wildly exciting pursuit has now been resolved into a steady, patient toil after the wonderful secrets which the study of this direction of Nature's endowments promises to reveal. Men have paused and have taken time to record the results and to collect such facts as are calculated when put in order to render the work valuable as a whole.

Mr. Soddy's exposition is admirably clear, and it is not difficult to see that his principal object in delivering these lectures was to present the subject in non-technical language, whilst so carefully has he brought together such facts and pieces of evidence as research has placed at his disposal that no link is left out in the chain of a remarkable story. The publication of the lectures in book form has given him the further opportunity of rearranging and largely re-writing the subject matter in order to secure continuity of treatment. To give an indication of the interesting questions discussed reference may be made to some of the interrogations with which he heads the sections of certain chapters. The following serve as examples: From Where Does the Energy of Radium Come? How is it there is any Radium Left? What is the Ultimate Product? (of disintegration). Are the Metals Changing like Radium? Why is Radium Unique among the Elements?—and so forth. He certainly gives rein to ideas which some may be tempted to call merely speculative in his treatment of these inquiries, but his arguments have the merit of logic behind them, and it is hard to take the position of the absolute sceptic in these days of intense scientific progression. To the philosopher's stone there was accredited the power not only of transmuting the metals but of acting as the elixir of life. Mr. Soddy finds belief in such a stone to be "a perfect and but a very slightly allegorical expression of the actual present views we hold to-day." In energy is the life of the physical universe, "and the key to the primary fountains of the physical life of the universe to-day is known to be transmutation. Was, then, this old association of the power of transmutation with the elixir of life merely a coincidence?"

Again, is the teaching of recent science, which is in favour of the steady upward progress of the race, irreconcilable with the view of tradition of the fall of man from a higher former state? "A race," writes Mr. Soddy, "which could transmute matter would have little need to earn its bread by the sweat of its brow. If we can judge from what our engineers accomplish with their comparatively restricted supplies of energy, such a race could transform a desert continent, thaw the frozen poles, and make the whole world one smiling Garden of Eden. Possibly they could explore the outer realms of space, emigrating to more favourable worlds, as the superfluous to-day emigrate to more favourable continents. One can see, also, that such dominance may well have been short-lived. By a single mistake the relative positions of Nature and Man as servant and master would, as now, become reversed, but with infinitely more disastrous consequences, so that even the whole world might be plunged back again under the undisputed sway of Nature, to begin once more its upward toilsome journey through the ages. The legend of the Fall of Man possibly may, indeed, be the story of such a past calamity."

All these questions are asked in a philosophical spirit, showing neither credulity nor pedantic scepticism. Mr. Soddy's "Interpretation of Radium" is a charming and entertaining volume.

Insanity in India. By G. F. W. Ewens, M.D. R.U.I., Major, Indian Medical Service. Calcutta: Thacker, Spink, and Co. 1908. Pp. 347. Price 12*s.* net.

Major Ewens has had considerable experience of the subject upon which he writes and is intimately acquainted with the practice of psychiatry in India. It is striking to note how very small is the number of the insane population in India as compared with the numbers of the insane in the populations of Western nations. To account for this, Major Ewens adduces the greater simplicity of life, the effect of climate, tradition, and training in rendering the people fatalistic and patient, and lastly, the fact that as very many insane persons are untreated there is probably a great percentage of mortality among them, and consequently the establishment of a natural check upon the transmission to posterity of the tendency to the disease. Another striking peculiarity in the incidence of the disease is the smallness of the numbers of affected females—namely, very nearly as 1 to 5 of affected males. This the author attributes for the most part to the way in which disease occurring among women is studiously concealed.

It appears that, so far as the asylum population is concerned, cases of mania far outnumber other varieties of insanity. Simple melancholia is scarcely seen, for persons so afflicted are conveniently retained at home and are allowed to do as they will. If they do show any troublesome tendency they are tied to the leg of a bedstead or to a tree, and at intervals bled or treated by charms or by other methods which are more highly esteemed among the people than is any form of treatment received at an asylum, no matter how sedulous and sympathetic it may be. Superstition interferes, even as it does in certain circles in this country, with efficient treatment. Given an adhesion to religious practices, the most extravagantly insane acts are condoned as those of a god-inspired man. The author quotes the case of a poor feeble old woman who begged the authorities to give her back her helpless, filthy, and demented son, as she wished to put him in the gate of the village to be consulted as an oracle. In another case the patient was so insane as to be incomprehensibly incoherent, and so deficient in control that he once committed a murder, but was nevertheless regarded by the whole of Lahore, Hindoo and Mahomedan alike, as a holy and powerful man who could, if so inclined, grant his applicants any favour, and was visited daily, not only by the poor, but also by the rich merchants, and even by graduates and native medical men trained by Europeans, men who could for examination purposes discourse learnedly on the causes and symptoms of this very disease, but whose sentiments and superstitions were more powerful than all their learning in governing their conduct.

Marriage in India is contracted in very early life, but there is nothing to bear out the assumption that the offspring of such marriages are mentally defective. Indeed, healthy children are in these cases plentiful and idiots are rare. Major Ewens has written special chapters upon Opium, Indian Hemp, Malaria, and Sunstroke in connexion with insanity. He is of opinion that opium, *per se*, never directly causes insanity. In the Punjab opium eating is such a widespread habit that, had it any direct power of causation, the author is quite certain that some cases would have come under his observation, but as a fact no single clearly established case has come to his notice, and he confidently asserts that the use of the drug has no permanent mental effect. A short chapter contains an account of the law relating to Insanity. A wholesome feature of the law as administered in India seems to be its simplicity.

The book should prove a useful one to physicians practising psychiatry in India, but we cannot refrain from expressing a regret that the author has not paid a little more attention to literary style.

Diseases of the Nervous System for the General Practitioner and Student. By ALFRED GORDON, A.M., M.D. Paris, Associate in Nervous and Mental Diseases, Jefferson Medical College, &c. London: H. K. Lewis. 1908. Pp. xii.-487. Price 12*s.* 6*d.* net.

THE author informs us in the preface to this book that it was written in response to the "continuous complaint" of students and general practitioners that they cannot get hold of a book which gives them a plain and practical account of the diseases of the nervous system. The complaint is not a very reasonable one and we have not heard it often. We do not ourselves feel sure that this book, though written for the very purpose, is well adapted for the needs of students, as we believe that what they most require is a clear account of the elementary facts upon which the broad diagnosis of the nature of nervous lesions is based, such as the distinction between the phenomena of lesions of the upper and lower segments respectively of the motor tract, a well-devised system of routine examination of all cases to bring out the salient features, and a careful study of some of the affections most commonly met with in practice. In this book we have first an adequate chapter on the anatomy of the nervous system, illustrated by figures taken mostly from Morris's "Anatomy"; this is followed by a very brief account of the method of examination to be adopted, extending over barely 15 pages, of which six are devoted to electrical testing and in which no account is apparently taken of the mental condition of the patient; then follow chapters dealing with special affections. The list of conditions dealt with is very full, including not only the diseases usually recognised as nervous, but also some not generally so classified, such as Graves's disease, myxœdema, achondroplasia, acromegaly, and so forth.

We feel that for students, at all events, the space available would have been better occupied by fuller accounts of common conditions, the affections just mentioned being omitted and also some of the rarer affections such as Dubini's chorea or cerebellar heredo-ataxia. The very fulness of the list of maladies may, however, constitute a virtue in other eyes. There can, however, hardly be a difference of opinion as to the author's habit of frequently referring the reader to his writings in the medical journals, as neither students nor general practitioners can be supposed to have leisure for this form of research.

The book is well printed, though we are surprised to find American forms of spelling, such as "fibers," "anemia," and "hemorrhage," in a volume issued by an English publisher. It may be useful as a book of ready reference for the teacher of nervous diseases, scarcely for the direct perusal of his class.

Medicine and Surgery. Vol. X., Thiersch— William Green and ol. X.) 609. Price 15*s.* each volume.

NUMEROUS interesting articles appear in Vol. IX. of this publication. Of those which did not appear in the "Encyclopædia Medica" two may be specially referred to. One on the Medical Examination of Schools and School Children, by Dr. W. Leslie Mackenzie of Leith, is of considerable importance at the present time, as much attention has been publicly drawn to the subject. An interesting account is given of the various commissions which have investigated and reported on the matter in this country, and a reference is made to the measures which have been adopted on the continent. Dr. Mackenzie maintains that medical inspection of school children is no isolated phenomenon, but "part of a world movement towards personal hygiene." Hitherto, he points out, the energies of the public health movement have been mainly exercised in securing a good environment. "The new public health departure of the twentieth century is the effort to increase the capacity and fitness of the organism." We endorse his statement that the fundamental proposition of this movement is that the early nurture of the child is a primary factor in the development of the adult. Hitherto it has been assumed that the children are normal, but unfortunately this assumption has been upset by masses of facts to the contrary. The ignorance of parents in regard to the ordinary necessities of a healthy life is astounding, and doubtless the care which is to be exercised in the future over the children by means of medical supervision will prove of immense advantage to the nation. The other article, which is new, is one on the Status Lymphaticus, by Dr W. H. Wynn of Birmingham. He comments on the various theories that have been advanced to account for the sudden death which so frequently occurs in children suffering from this condition, and maintains that in future investigations on lymphatism especial attention should be directed to the thyroid gland. Recent advances in the knowledge of syphilis have been taken notice of in a contribution by Mr. D'Arcy Power dealing with the causal agent of that disease—the spirochæta pallida—and the serum diagnosis of the malady.

Volume X. brings the work to a conclusion. It contains, amongst numerous other articles, a group of contributions treating of the Morbid Conditions of the Uterus, and a long paper on Pathological Changes in the Urine by Dr. A. E. Garrod and Dr. J. H. Drysdale. The articles on Toxicology (Dr. J. Dixon Mann) and Dangerous Trades (Sir Thomas Oliver) are also worthy of notice.

The whole publication forms a valuable work of reference for those engaged in general practice. The articles are for the most part full and well written, and although doubtful theoretical points are not discussed at any great length, yet the remarks on diagnosis and treatment are all that can be desired—in other words, the Encyclopædia is essentially useful for practical work.

The Operations of General Practice. By Edred M. Corner, M.A., M.C., M.B. Cantab., B.Sc. Lond., F.R.C.S. Eng., Surgeon in charge of Out-patients at St. Thomas's Hospital, and to the Children's Hospital, Great Ormond-street; and H. Irving Pinches, M.A., M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., Clinical Assistant to the Children's Hospital, Great Ormond-street. Second edition, revised and enlarged. London: Henry Frowde and Hodder and Stoughton. 1908. Pp. 338. Price 15*s.* net.

The very rapid sale of the first edition of this book shows that it has met a demand, and this second edition contains several alterations, and especially a chapter on new operations. We might repeat all the favourable opinions which we expressed on the first edition. It is a thoroughly good book and likely to prove very useful for those for whom it is intended. It becomes nowadays increasingly difficult to draw a line between those operations which are suitable for a general practitioner to perform and those which should be undertaken only by a surgeon who devotes himself specially to operative surgery, which is another way of saying that under the modern curriculum a very large number of men start their professional careers with a fine surgical equipment. Certainly there is little included in this treatise which would be beyond the powers of the general practitioner who has had an opportunity of putting with sufficient frequency into practice what he has learned, read, and seen. In the section dealing with incisions the authors say that it is important that a cut should not be "shelving"; they do not seem to be aware that shelving incisions are followed by less conspicuous scars than those which follow incisions made with a knife held perpendicularly—the fact that our criticism is limited to such remarks as this and the one that follows sufficiently shows our estimate. The lists of instruments required at different operations are likely to be useful, but everyone who operates should remember that it is not rare for operations to prove more difficult and complicated than was thought probable; it is therefore desirable for the surgeon always to have in reserve at an operation any instruments which may be required.

Atlas und Grundriss der Gerichtlichen Medizin. (*Atlas and Rudiments of Legal Medicine.*) Herausgegeben von Dr. Georg Puppe. Two volumes: Vol. I., pp. 692; Vol. II., pp. 335. Price M.20. München: J. F. Lehmann's Verlag. 1908.

This work is practically a new and considerably enlarged edition of the "Atlas of Legal Medicine" by Dr. E. von Hofmann, which was published in 1898. The letter-press has been considerably amplified and many new illustrations have been added. There are now 70 plates in colours and 204 illustrations in black. We believe that the value of a work on medical jurisprudence is considerably added to by a copious employment of illustrative cases and good illustrations. The volume now before us contains a large number of reproductions of photographs and original drawings of various lesions and pathological conditions taken directly from actual cases, and its practical utility has gained much thereby. The illustrations are well chosen and beautifully reproduced, and every subject comprised in legal medicine is represented. An English translation of Dr. Hofmann's work was made, and we hope that the same course will be taken in reference to Dr. Puppe's work. Unless translated the information contained in it can only be appreciated by comparatively few English readers, but as a work of reference as well as a text-book it deserves a large circulation.

LIBRARY TABLE.

A Manual of Surgery for Students and Practitioners. By William Rose, M.B., B.S. Lond., F.R.C.S. Eng., Emeritus Professor of Surgery and Member of Council, King's College, London, and formerly Senior Surgeon to King's College Hospital; and Albert Carless, M.S. Lond., F.R.C.S. Eng., Professor of Surgery in King's College and Surgeon to King's College Hospital; Examiner in Surgery to the University of London and to the Victoria University of Manchester. Seventh edition. London: Baillière, Tindall, and Cox. 1908. Pp. 1376. Price 21*s.* net.—We have had the pleasure on many previous occasions of noticing the issue of new editions of this Surgery, and on each occasion we have been able to praise the general character of the work, and the efforts of its authors to make each succeeding edition fully representative of the surgery of the day. It is doubtful whether at any previous period the progress of surgery has been more rapid than at present, and this fact entails a great strain on the writers of text-books who endeavour to keep them up to date. The authors of this Surgery have been very successful in revising their book, and it is now, as it has been ever since its first appearance, a trustworthy guide to the student and practitioner. The compass of surgery is so vast that some compression is needed to squeeze the whole subject even into 1400 pages, and some sacrifices must be made, but we would ask the authors to do their utmost to prevent the further enlargement of the book. Each issue sees an increase in size and for practical purposes the work can grow too large. We have nothing but praise for the book, and the interesting preface by Mr. Carless shows that he also has a due appreciation of the difficulties of including in a text-book all that should be present while keeping to a reasonable size. Excisions may, however, be possible even if additions are necessary. He would be bold who would venture to predict the position of surgery 20 years hence. We may be sure that many new operations will have been devised and performed, but it is also possible that some present operative procedures will have been rendered unnecessary by inventions and discoveries of other methods of treatment.

Atlas der Syphilis und der Venerischen Krankheiten, mit einem Grundriss der Pathologie und Therapie derselben. (*An Atlas of Syphilis and Venereal Disease, with an Introduction to their Pathology and Treatment.*) Von Hofrat Professor Dr. Franz Mracek in Wien. Second enlarged and improved edition, with 81 coloured plates after original water-colour drawings by A. Schmitson. München: Verlag von J. F. Lehmann. 1908. Pp. 218. Price M.16.—Lehmann's Hand Atlases are too well known to need much praise, and one of the best of them is this volume dealing with syphilis and other venereal diseases. So far as these affect the skin and mucous membranes, they lend themselves readily to pictorial representation, and the employment of colours increases enormously the value of the drawings. In this country it is only a very large circulation which can render possible the sale of 81 coloured plates and a text-book for 16*s.*, and many of our authors must wonder how these things are managed in Germany. The work does not deal with the syphilitic lesions of the bones and other deep structures, so far at least as the illustrations are concerned, but the text does give a brief account of these. The student who reads German cannot have a better series of plates for the study of cutaneous and mucous manifestations of venereal disease.

JOURNALS AND MAGAZINES.

Proceedings of the Royal Society of Medicine. Vol. II., No. 6 (April, 1909). London: Longmans, Green, and Co.—Amongst the communications to this volume of the Proceedings which have not been reported already in THE LANCET are the following. In the Clinical Section a case of malignant tumour in the spinal meninges, with invasion of the cord, secondary to carcinoma of the mammary glands, with other metastases, by Dr. H. Macnaughton-Jones. In the Dermatological Section are reports of cases of urticaria pigmentosa in a girl, aged 10 years, and of trophic lesions in a boy of four years, by Dr. J. L. Bunch; of a doubtful case, possibly sclerodermia of the penis, by Dr. E. G. Graham Little; of acne varioliformis in a man, aged 37 years, by Dr. T. Colcott Fox; of a case showing the curative effects of x rays on scar keloid in a boy of six years, illustrated by reproductions of photographs of the boy before and after this treatment was adopted, by Dr. J. H. Sequeira; and of a case of syphilitic elephantiasis of the lips, by Dr. A. Whitfield. In the Electro-Therapeutical Section Dr. H. Lewis Jones writes on the treatment of nævus by electrical methods, with notes on 1600 cases. A valuable paper in which the author describes the respective scope of action of electrolysis, the galvano-cautery, high-frequency applications, x rays, and radium in the treatment of nævi, port-wine marks, and stellate veins. In the Laryngological Section Dr. J. Dundas Grant describes cases of Hunterian sore inside the lip of a young woman, of laryngeal tuberculosis improved by galvano-caustic puncture, and of a similar case in which the same treatment has been started. Dr. H. Lambert Lack describes a case of telangiectasis with epistaxis; Mr. W. Stuart-Low a case suggested to be one of thyroid tumour of the tongue; Mr. C. A. Parker a case of chronic infiltration of the larynx; and Dr. G. William Hill a case of crescentic subglottic web or hyperplasia in a syphilitic subject, causing stenosis of the anterior half of the lumen of the larynx. In the Obstetrical and Gynæcological Section Dr. W. Rivers Pollock describes a specimen of bilateral ovarian dermoids removed post mortem from an old lady aged 92 years. Mr. W. Gifford Nash records cases of torsion of a parovarian cyst during pregnancy, of hæmorrhage into an ovarian sarcoma producing symptoms resembling torsion, and of hæmorrhage into the peritoneal cavity following a strain, a case in which the great omentum, infiltrated with blood, was removed by operation. Dr. H. Russell Andrews contributes a case of twin pregnancy in a Fallopian tube; Dr. A. H. N. Lewers, an account of a fibroid tumour spontaneously expelled from the uterus seven and a half weeks after delivery; and Dr. H. R. Spencer two cases of ovarian fibroid complicating pregnancy. The Odontological Section is occupied by a paper of exceptional general interest in which Mr. Ashley Densham reviews the progress of dental science and literature from the earliest ages.

The Birmingham Medical Review.—In the February number of this review Dr. D. C. Lloyd Owen writes on the influence of the sexual organs on affections of the eye in women and suggests a toxic origin for such troubles, the catamenial flow normally eliminating some poison which may otherwise accumulate in the system. Mr. Leonard P. Gamgee discusses the indications for and against removal of the gall-bladder, which should not be done as a routine operation in cases of gall-stones nor in the presence of obstruction of the common duct.

The Bristol Medico Chirurgical Journal.—The fifth annual Long-Fox lecture was delivered by Mr. J. Herbert Parsons on Nov. 5th, 1908, and is published in the March number of this magazine. He deals with metastatic inflammations of the eye, and maintains that sympathetic inflammation is due to invasion by bacteria which are pathogenic only for the eye. Dr. George Parker writes on transient cerebral paralyses, many of which he believes to be due to localised anæmia of the brain, and Mr. A. L. Flemming on vomiting connected with anæsthesia. An interesting account of Thomas Dover, physician and merchant adventurer, is given by Dr. J. A. Nixon, who defends our ancient colleague against the accusation brought by Professor Osler that he was a buccaneer who was thorough both in medicine and piracy. A series of six articles is devoted to the merits and demerits of milk.

The Edinburgh Medical Journal.—The late Sir William Gairdner, who suffered from heart-block and the resulting symptoms known as the Stokes-Adams syndrome, kept some record of his malady, and this historic instance of the condition is discussed by Dr. G. A. Gibson and Dr. W. T. Ritchie in the April issue of this journal. Dr. R. W. Philip gives an interesting and useful account of the proceedings of the International Congress on Tuberculosis at Washington, which was notable for the increased favour shown to treatment by various forms of tuberculin. Among these Béraneck's preparation seems to be coming to the fore.

The Dublin Journal of Medical Science.—In the April number Dr. Walter G. Smith records an unusual case of Lupus Mutilans, in which the destruction of the extremities of the fingers resembled the lesions of leprosy. Illustrations are given of the deformity produced and skiagrams of the bony changes accompanying them. Sir John Broadbent writes on Prognosis in Valvular Disease of the Heart and Sir Charles A. Cameron on an Outbreak of Typhoid Fever caused by Infected Milk.

The Medical Chronicle.—Lesions of the diaphragm are dealt with in two articles in the April issue of this journal. In the first Dr. E. B. Leech and Dr. C. H. S. Redmond narrate two cases of Congenital Diaphragmatic Hernia and discuss the phenomena of this condition, which is seldom recognisable by symptoms and signs during life. In the second Mr. E. D. Telford records two cases of Rupture of the Diaphragm, in one of which the patient lived 91 days after the accident and attended to her ordinary duties. Dr. E. M. Brockbank gives post-mortem notes of the cases of aneurysm of the aorta which have occurred in the Royal Infirmary, Manchester, during the last 40 years.

The West London Medical Journal.—A clinical lecture by Dr. Seymour Taylor on Epilepsy published in the April issue of this magazine calls attention to some nervous conditions allied to ordinary epilepsy, especially to cases of nocturnal, and occasionally of diurnal, enuresis. Dr. E. Furniss Potter writes on Submucous Resection as an Operation for Deformities of the Nasal Septum, and Mr. Aslett Baldwin on the Treatment of Appendicitis.

NOTIFICATION OF BIRTHS ACT.—The Brighton town council on May 6th decided to adopt the Notification of Births Act and to appoint a female to act as health visitor and superintendent of midwives at a salary of £80 per annum. The sanitary committee, on whose recommendation the Act was adopted, met with considerable opposition on the ground of the additional burden on the rates, but eventually carried its point by a large majority. It was stated during the discussion that 132 authorities had now adopted the Act.

school and also a block of the other school. The average time taken to cure a case has been reduced from some 18 months to three and a half months. In the ringworm school in Paris the cost per child has been reduced from 2000 francs to 260 francs, that is to say, to almost one-eighth part of the former cost. It is thus a means of great saving, not only in the cost of treatment, but in the time during which the child is unable to associate with healthy children. The same method is applicable to favus, and this is of importance, for the free admission of diseased aliens is bringing us yearly large numbers of children suffering from this disease, which is especially prevalent amongst Polish and Russian Jews. The London County Council is proposing to introduce the x ray treatment of ringworm, and all who are competent to decide the question from a practical knowledge of the subject are agreed that it is by far the best method of treatment with which we are at present acquainted.

The questions here naturally arise:—Is the x ray treatment of ringworm entirely free from risk? Is it not possible that, eminently successful though it may be in removing the disease, it may produce harmful effects which may manifest themselves later? The public imagination has been stirred in this direction by a communication to the *Times*, in which the fear is expressed that the delicate brain of the child may be damaged by the x rays, so that, even though no harmful effects may appear at the time, the rays may so impair the cerebral tissue that its growth will be mischievously affected and its development checked or even rendered impossible. Those who would maintain such views point to the x ray burns and the malignant growths which have appeared in those who have been much exposed to x rays. We are fortunate to be able to print in this number of The Lancet two papers bearing on the question of the x ray treatment of tinea, one by Dr. J. M. H. Macleod and the other by Dr. H. G. Adamson, and they are based on an extensive personal knowledge of this method of dealing with ringworm. The essential principle of the modern method is the accurate adjustment of the dose of x rays, so that the desired effect, the removal of the hairs of the area treated, shall be produced with unfailing certainty, but so that no excess of rays can be administered. In this way the dermatologist can be certain of not producing any permanent alopecia of the scalp and of not causing any x ray burn. The only reaction produced is a transient erythema, which disappears even before the hairs have fallen from their follicles. It is clear that care and skill are required to produce the beneficial, and only the beneficial, results, and at first occasionally the reaction was excessive, sometimes apparently from the use of incorrect pastilles, but these undesirable effects do not appear now, and the skilled operator can guarantee the thoroughness and innocuousness of the treatment.

With regard to the harm that it is suggested may be done to the growing brain of children, what evidence have we that any such harmful effect is ever produced? The *only answer that can be given is that there is not a tittle* of evidence that the x rays in small doses such as those administered for epilation in ringworm have ever had the faintest ill-effect on the brain of the child. Even in the letter to the *Times*, to which we have referred, no evidence is brought forward that any harm of this sort has ever been known to follow the use of the x rays. We have been unable to obtain the slightest proof, or even the slightest grounds upon which to found a reasonable suspicion, that these rays exercise any pernicious influence on the cerebral tissue, and we agree with Mr. Chisholm Williams's letter in our columns this week that such scares are very unfortunate. *A priori*, we should not expect any harm to result, for it is rare indeed even for the skin, directly exposed as it is to the rays, to suffer from the single exposure necessary for Sabouraud's method; the sitting is strictly limited in duration and only one application to any part of the scalp is needed. The harmful effects manifested in the skin in the case of x ray workers follow only after a prolonged exposure or after multiple exposures. Dr. Macleod records this week a series of experiments which he has undertaken in order to estimate the proportion of the rays which are capable of penetrating the scalp and skull, and by means of Sabouraud's pastilles it was found that even the thinnest portion of the parietal bone allowed only half of the effective rays to reach the pastille. In the case of the thicker parts of the bone the protection afforded was much greater. The scalp also appears to cut off about 30 per cent. of the rays, so that, even if we do not take into account the meninges, only about 20 per cent. of the x rays can reach the brain through the thin parts of the skull, a conclusion which, we believe, had been already reached by other observers Sabouraud himself, who has used the x ray treatment of ringworm for nearly five years, has never seen any nervous trouble, either temporary or permanent, follow upon it, and with this opinion all other observers agree. It is almost unnecessary to point out that in speaking of the harmlessness of x rays we have assumed that the treatment is carried out by a skilled and careful operator, but that is an assumption that must be made in relation to any important and delicate operation. Provided that due skill and care are employed, the x ray treatment of ringworm of the scalp is without doubt the most thorough and certain of the methods known to us at present, and, so far as our knowledge goes, it is perfectly free from harm.

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The Biological Significance of Fever.

The significance of the febrile reaction to infection by microbial agencies has been much discussed, and in common with many of the problems in pathology has of late been considerably elucidated by experimental researches into the nature of the protective mechanisms of the body and into the production of antibodies. Owing to the fact that the raised temperature in fever is the most striking feature in the febrile reaction the term fever has come to be used in a double sense, being sometimes restricted to that raised temperature, at others employed to designate the whole series of systemic disturbances which should more appropriately be referred to as the febrile state. Moreover, since an elevation of the body temperature may be produced by a variety of conditions, independently of any specific bacterial infection, such as by exposure to very high external temperatures, by drugs, by injuries to or diseases of the nervous system, and by the injection of ferments and tissue extracts, it is necessary to restrict the term "fever" to that form produced by an infective agent or by its toxin, using the term "pyrexia" as a general expression to include all forms of raised body temperature.

The rôle and significance of the febrile temperature or fever in the organism in regard to infection is discussed in an interesting paper by Dr. Fr. Rolly of Leipsic, published in the *Munchener Medizinische Wochenschrift* of April 13th. He points out that by some authorities the raised temperature has been regarded as only productive of harm, by others it has been described as a beneficial adaptation on the part of the organism to combat the disease-producing agent, and by yet others as a condition having both harmful and useful aspects. The work of Liebermeister, who attributed the chief dangers of the febrile state to the raised temperature, and referred the parenchymatous changes in the organs and the general disturbances of function to the same cause, resulted in the general application of antipyretic measures in the treatment of prolonged and continuous fevers. So long ago as 1882, however, Unverricht expressed the opinion that there was no convincing proof of the harmful nature of the febrile temperature, and suggested that, on the contrary, it was possible that it was a useful reaction on the part of the organism against the cause of the fever. Dr. Rolly reviews the experimental researches which have been carried out to differentiate between the effects of the febrile temperature and those of the infective agent or its toxins, and adds the results of some special experiments devised by himself and his collaborator, Dr. Meltzer. In regard to the parenchymatous changes produced in organs he concludes that these are the *result of the infective agent, and that the raised* temperature plays little or no part in their production, probably none unless the temperature is greater than 40° C. Considering next the increased destruction of protein material in fever he finds that, although a high temperature does lead to increased metabolism, with temperatures under 40° C. the increase is almost negligibly small compared with that induced by the activity of bacteria and their toxins. This is determined by comparing the excretion of nitrogen in animals with increased temperature due to artificial overheating, or to lesions of the nervous system producing hyperthermia, with that of animals of the same species suffering from fever due to infection. By similar methods a like conclusion is arrived at in regard to the loss of weight and loss of appetite associated with the febrile state. The increased frequency of the pulse and of respiration, on the other hand, is to be attributed to the increased temperature in fever, and probably in most instances to this cause alone Whether this reaction is beneficial or harmful Dr. Rolly finds it difficult to determine, since on the one side it is possible that the increased circulation may assist in the more rapid elimination of the infective agent, whereas on the other the increased action may lead to cardio-vascular weakness. The vaso-motor disturbances in fever appear to be due to the infective agent, and not to the raised temperature, since Welch has shown that in animals with artificial hyperthermia the functions of the heart and vessels appear intact and blood pressure remains of normal height. In regard to the effects of elevation of the body temperature upon the functions of the nervous system it seems to be established that slight degrees of headache, restlessness, and insomnia may result, but any serious disturbance associated with fever, especially delirium and other disturbances of consciousness, are, according to Dr. Rolly, to be attributed to the infective agent and not to the temperature. Considering the changes in the blood he found in collaboration with Dr. Meltzer that simple elevation of the body temperature causes a diminution in the percentage of hæmoglobin to the extent of 10 to 15 per cent. after periods varying from four to 18 days. The red corpuscles were as a rule not diminished in number, although the leucocytes might suffer a slight increase. These results confirm in the main the observations of Werhovsky on the same question, and are considered to indicate that any severe blood changes, especially in the red and white corpuscles, are the result of the activity of the infective process rather than of the febrile temperature.

Investigations were also carried out to try to discover proof of any beneficial influence of the raised temperature upon the course of an infection. Unverricht suggested that the febrile temperature exerted a damaging influence upon the growth of the infective bacteria, and supported his view with an observation made by Pipping that pneumococci were hindered in their growth upon bouillon by exposure to a temperature corresponding to that found in fever. Dr. Rolly, working with Dr. Meltzer, found, however, that whatever might be the effect upon the growth of the bacteria in artificial media there was no evidence of a directly deleterious effect of the febrile temperature upon *their growth in the living organism. They, therefore,* attacked the problem from another standpoint and endeavoured to find out the influence of temperature upon the course of artificial infections in animals, but did not obtain concordant results until they produced infection by repeated injections of less than the minimal lethal doses of the disease-producing agent instead of one lethal dose, thus endeavouring to approximate the conditions of infection more closely to those of natural infection in man. They then found in a majority of cases evidence of a beneficial effect of the fever upon the course of the infection. They next studied the effects of the raised body temperature upon the known protective processes of the body. Starting with phagocytosis or the ingestion of bacteria and working with human leucocytes they found that their phagocytic power reached a maximum at about 39·5°-40° C., but that at temperatures of 41·5° C. and higher this power rapidly diminished. Since the phagocytic power is greater at temperatures above normal than at the normal level they conclude that in infections where phagocytosis plays a part in protection the raised temperature is beneficial and assists that process Next as regards the specific protective substances formed *in response to bacterial invasion the* agglutinins are easy to measure quantitatively, and they found in rabbits that these substances are formed more school and also a block of the other school. The average time taken to cure a case has been reduced from some 18 months to three and a half months. In the ringworm school in Paris the cost per child has been reduced from 2000 francs to 260 francs, that is to say, to almost one-eighth part of the former cost. It is thus a means of great saving, not only in the cost of treatment, but in the time during which the child is unable to associate with healthy children. The same method is applicable to favus, and this is of importance, for the free admission of diseased aliens is bringing us yearly large numbers of children suffering from this disease, which is especially prevalent amongst Polish and Russian Jews. The London County Council is proposing to introduce the x ray treatment of ringworm, and all who are competent to decide the question from a practical knowledge of the subject are agreed that it is by far the best method of treatment with which we are at present acquainted.

The questions here naturally arise:—Is the x ray treatment of ringworm entirely free from risk? Is it not possible that, eminently successful though it may be in removing the disease, it may produce harmful effects which may manifest themselves later? The public imagination has been stirred in this direction by a communication to the *Times*, in which the fear is expressed that the delicate brain of the child may be damaged by the x rays, so that, even though no harmful effects may appear at the time, the rays may so impair the cerebral tissue that its growth will be mischievously affected and its development checked or even rendered impossible. Those who would maintain such views point to the x ray burns and the malignant growths which have appeared in those who have been much exposed to x rays. We are fortunate to be able to print in this number of THE LANCET two papers bearing on the question of the x ray treatment of tinea, one by Dr. J. M. H. MACLEOD and the other by Dr. H. G. ADAMSON, and they are based on an extensive personal knowledge of this method of dealing with ringworm. The essential principle of the modern method is the accurate adjustment of the dose of x rays, so that the desired effect, the removal of the hairs of the area treated, shall be produced with unfailing certainty, but so that no excess of rays can be administered. In this way the dermatologist can be certain of not producing any permanent alopecia of the scalp and of not causing any x ray burn. The only reaction produced is a transient erythema, which disappears even before the hairs have fallen from their follicles. It is clear that care and skill are required to produce the beneficial, and only the beneficial, results, and at first occasionally the reaction was excessive, sometimes apparently from the use of incorrect pastilles, but these undesirable effects do not appear now, and the skilled operator can guarantee the thoroughness and innocuousness of the treatment.

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THE SICULO-CALABRIAN CATACLYSM: REMISSNESS IN RELIEF WORK.

"THE *English-speaking world," writes an Italian contributor,* "by far the promptest and most free-handed in relieving the sufferers from the earthquake of Dec. 28th, 1908, is entitled to know how its largess has been employed and its active sympathy responded to. Sicilians and Calabrians themselves—interested as survivors of the visitation—have but one answer to give to that question, an answer summed up by one of the most authoritative of their number in the sentence: 'Little has been done, and that little badly.' These words of the eminent surgeon and senator Francesco Durante well-nigh a month after they were *uttered in the Upper Chamber of Parliament are still* without practical effect on the *status quo!* Nay, they are as true in the week now passing as when they wound up a debate on the situation in April last. On May 6th Signor Paniano, a prominent member of the Lower House, received the following telegram from Messina: 'For two days we have had rain and snow. The population "accommodated" in the huts—huts without doors, without windows, without tiles—are benumbed and dying of cold. We want to know to what Government we ought to turn for the provisions required. Signed: Martini, Vice-Syndic. Commenting on this appeal, one of the leading Roman journals writes: 'The whole country, which had a primary outburst of sympathetic solidarity in behalf of Sicily and Calabria, should follow that up with a second, not indeed to collect funds, but to insist on the proper application of those already collected.' As if to add a personal, not to say self-interested, motive to that which common humanity ought to inspire in accelerating and intensifying the relief work, a Catanian journal of about the same date as the above-cited telegram, under the title of 'Un Nuovo Flagello' (a new scourge), says: 'A strange, fierce crowd infests the dead city of Messina—a crowd of vermin and microbes, which take by assault the corpses disinterred by the eager avarice of those who, night and day, are grubbing for loot among the ruins,' and after a gruesome description of the maggots and insects subsisting on the putrescent dead, the journal adds: 'Meanwhile a fœtor, heavy as a cloud, destructive as a pestilence, ascends from the vast cemetery.' *There may be* exaggeration in this, as the official organs are fain to plead, but if only half of it be true it constitutes a severe indictment of the efforts, central as well as local, to retrieve a situation appealing, now these four months, to the sympathies of all Italians, not to say of the outlying world. *The official organs referred to make* much of isolated relief work at this or that centre of population to which the survivors have been deported. At Palermo, for instance, something has been achieved, in the Clinica Pediatrica attached to the University Hospital and also in the 'Ospedale dei Bambini' (Children's Hospital). But while 'hand-to-mouth' relief has undoubtedly been practised here and there, and while cases can be quoted of effective assistance rendered to this or that sufferer, the net result is deplorably inadequate to the means and the resources, monetary and other, placed at Italy's disposal by a sympathising and generous world. Unfortunately her record in visitations of a similar kind is by no means unimpeachable—witness the malversation of funds subscribed in Great Britain alone in 1883 for the victims to Venetian floods and Ischian earthquakes! Even as late as 1903, when Calabria succumbed to a 'telluric storm' only less disastrous than that of Dec. 28th, 1908, next to nothing was effected for the sufferers until a 'surprise visit' of the King brought the local authorities to a sense of their duties. It is unpleasant to have to write in this strain, but Italy, if she wants to keep, as she certainly has deserved, the sympathy of the outside world, must henceforth see to it that the help so amply, so promptly vouchsafed has been properly distributed and not, by carelessness, or remissness, or worse, been frittered away in the distribution."

SMOKE ABATEMENT.

THE report recently presented to the London County Council on the smoke abatement question furnishes further evidence as to the source of the evil; and in many particulars this evidence will be found analogous with that which we have brought to the notice of our readers in a practical form from time to time. It is pointed out that apart *from the smoke emitted from trade premises serious* smoke nuisance also arises from private houses. It is estimated that one-half of the smoke in London comes from this source, for which there is no legislative remedy. The emission from each individual chimney may be slight, but in winter probably one million domestic chimneys pour forth smoke daily into the atmosphere, and it is therefore evident that the total volume of smoke must be very great. It has been noticed that some of the densest London fogs have arisen on days when the great bulk of business premises have been closed. A bank of smoke has been *seen to rise to a height of* 3000 or 4000 feet and to be carried by the wind in a sunlight obscuring trail to a distance of 50 miles. Dr. W. N. Shaw of the Meteorological Office says the records show that owing to its smoke London loses half its sunshine in winter and one-sixth in summer. Many people advocate the abolition of the open fire in favour of the closed stove system in use on the continent, but the Public Control Committee in its report remarks that, while undoubtedly the general adoption of such a system of heating would result in a purer external atmosphere, this would be secured at the sacrifice of much of the fresh air indoors, for which open fires, by providing a good deal of ventilation, are largely responsible. The committee looks for a reduction of domestic smoke from the use of open fire grates which secure better combustion of coal, and from the growing use of gas and electricity for heating and cooking. There are nearly half a million gas cooking-stoves employed *in London houses at the present time. To* diminish domestic smoke materially public opinion needs to be educated, and a step in this direction is the instruction which is given to children in the day-schools in the principles of combustion, so as to make them grasp the fact that smoke is not inevitable but often results from the wasteful use of *fuel. The committee* does *not suggest* any action to deal with nuisance from the domestic chimney, but it points out that it may be necessary, unless public opinion brings about some radical improvement, to give serious attention to this grave problem. With a view to collecting and disseminating information the committee recommends that the Council should obtain powers to spend not more than £500 a year in the advancement of measures for the abatement of smoke nuisance. The committee also suggests definite amendments of the Public Health (London) Act, 1891, which experience of the working of the measure has shown to be necessary. The most important of these is a proposal to delete the qualifying word "black" as applied to smoke. It is also desired to bring the premises of the Crown, of local authorities, and of statutory companies under the operation of the statute, and to obtain powers to deal with the nuisance arising from smoke drifting into London from premises situated outside the county boundary. This clause would be enforced by the London County Council, but the Act, as a whole, is administered by the borough councils. The Finance Committee, reporting on the proposals from a financial point of view, raises no objection so far as strengthening the powers of the borough councils is concerned, but it "views with apprehension" any proposal which might involve the County Council in increased expenditure of an unascertained amount. As we have said, the substance of these recommendations will be found in the pages of THE LANCET for the past decade or so as the outcome of several practical inquiries made by us upon the subject.

THE MORTALITY AMONG WORKHOUSE BABIES.

IT may be recollected that the early part of the third chapter of the Minority Report of the Poor-law Commission contained severe criticism of the maternity wards and nurseries of workhouses which had come under the observation of certain of the Commissioners, based partly upon conditions described as existing in them, and partly upon statistics of infantile mortality in workhouses and upon the comparison of these with figures relating to infantile mortality outside the domain of Poor-law relief. So startling were the figures that Mr. F. E. Smith, K.C., called attention to them in the House of Commons immediately by a question addressed to the President of the Local Government Board, and an amplification of the reply then given by Mr. Burns has since been issued by the Board as a Parliamentary paper. The paper criticises the figures of the Minority Report and in turn has been criticised by Mrs. Sydney Webb, one of the four members of the Commission responsible for that report. Mrs. Webb's able letter has appeared in several papers and the statement of the Local Government Board is obtainable through the usual channels at the price of 1*d.* It was pointed out in our first criticism of the Minority Report[1] that discussion as to the accuracy and justice of the figures and the arguments relating to this particular topic was inevitable, and the subject is one well worthy of attention. In the workhouse lying-in wards and nurseries a high percentage of mortality exists, to which and to possible means for preventing it the four Commissioners rightly drew attention; but in dealing with it statistically they relied in part upon figures which were unimpeachable, but which in some degree are open to the criticism of not being upon a sufficiently large scale to make it safe to generalise from them, and in part upon others of a more speculative nature, drawing conclusions from the combination of the two classes. Those conclusions and the data upon which they are based form the subject of the Local Government Board's statement, which Mrs. Webb characterises as a "white-washing report," and as to which it is true that so far as it goes it defends the workhouses, dissenting from the conclusions of the Minority Report. It confines its attention, however, to the subject of Mr. Smith's question—namely, the figures—and does not touch upon the conditions which were described in the Minority Report as existing more particularly in the nurseries and as contributing to, or as responsible for, the mortality to which the figures related. In fact, it seeks to repel only one portion of the attack aimed at the workhouses, for which the Board must accept a measure of responsibility. It points out the importance of considering pre-natal conditions in determining the causes of death among the infants in the lying-in ward of a workhouse infirmary, showing by a table that of 112 infants dying in the first week of life out of 2653 born in London Poor-law institutions 57 were prematurely born, 46 were doomed to early decease by congenital defects, atrophy, debility, marasmus, and inanition, the remaining nine succumbing to other stated causes. As an instance of statistical weakness the Board points out that in dealing with the later life of infants born in workhouses, who either remain in the institution or are taken from it in their first year, the Minority Report assumes that those who left the workhouse within the year had a death-rate equal to those who remained in the institution. Figures thus arrived at are clearly not to be relied upon in controversy, nor are any which are open to the criticism that they are based upon the observation of an insufficient number of cases or upon cases not properly related to those with which they are to be compared. Figures, in short, have to be handled with exactitude, in a spirit as little as possible that of the partisan, and with full knowledge of the circumstances to which they may be traceable. As an instance of what we mean, we take at random some percentages given in a footnote at page 782 of the report, where we read that "the proportion of infantile deaths to the births during 1907 was in the City of London Lying-in Hospital, 26·1 per 1000; in the East-end Mothers' Home, 21·07 per 1000; in Queen Charlotte's Lying-in Hospital, 26·1 per 1000; and in the General Lying-in Hospital, 59·3 per 1000." This might condemn at first sight one of the institutions named as deserving greater censure than the workhouse lying-in wards As it is, it does nothing of the kind, for we neither draw nor suggest any conclusion from it. We also at present do not draw conclusions from all the figures upon which Mrs. Webb lays stress. We are, however, in accord with her when she calls attention to some which on their face are comparable, and we agree that inquiry is desirable as to the cause of serious differences in the rate of mortality where such exist "between adjoining unions in the same towns" or between unions whose circumstances are provably similar. We also observe that the Local Government Board's statement does not cover such allegations of fact as are contained in the first of Mrs. Webb's numbered conclusions, and that it does not deal with corresponding statements on the subject of workhouse nurseries made in the Minority Report, which its signatories are no doubt ready to justify. These questions of fact are capable of independent authoritative inquiry and are fit subjects for it. Moreover, the conditions complained of, if found to exist, are capable of amendment without recourse to legislation and without waiting for boards of guardians to be superseded by other bodies administering the same functions.

DIPHTHERIA AND ANTITOXIN TREATMENT.

OUR Swiss correspondent writes from Zürich that at the request of Professor Kroenlein, professor of surgery at the University of Zurich, Dr. Ph. Schoenholzer, his senior house surgeon, has published an extensive report on 3322 cases of diphtheria treated at the clinique during a period of 28 years. As in 14 of these years the old methods of treatment were employed and in 14 the modern antitoxin treatment, a comparison of therapeutic results is readily available. The antitoxin used for these patients was prepared by the Federal Serum Institute of Bern. Out of 1336 patients treated in the pre-antitoxin period (from 1881 to 1894) 40 per cent., or 534, succumbed to the disease, whereas out of 1986 cases registered from 1894 to 1908 only 13·4 per cent., or 266, died from diphtheria. The mortality of the tracheotomised patients decreased from 66 per cent. during the first period to 14 per cent. under the antitoxic *régime*. The reduction of the death-rate in the other cases was from 32·5 per cent. to 6·8 per cent. The mortality rate varied considerably from year to year—under the old treatment from 27 to 56 per cent., under the new from 5 to 20 per cent.

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[1] THE LANCET, March 6th, 1909, p. 707

THE HYGIENE OF THE HANDLE AND THE STEM.

THERE is a feature connected with the construction of certain modern drinking receptacles which in some circumstances is hygienically objectionable. We refer to the ordinary plain tumbler or goblet which has neither handle nor stem. It does not require the refinements of bacteriology or chemistry to indicate that in common places of refreshment the tumbler, the stemless glass, or the metal drinking vessel without a handle may readily be a source of contamination to the drinker. It is not customary any longer to drink tea out of a cup without a handle, and there are hygienic reasons in favour of the modern cup. It is surely a transgression against sanitary law or cleanly requirement that the edge or rim (or the space near it) of a drinking vessel is used both for lifting that vessel and for applying it to the mouth in order that the contents may reach the mouth. In public places of refreshment where it is the rule to serve drinks in tumblers, it is common enough to see the glassful of beer or whisky-and-soda handed to the customer by the serving person with his fingers and thumb on the rim—in fact, on that very portion of the glass which comes into contact with the drinker's lips That is an obviously repulsive proceeding and one which should (as it easily can) be avoided. It would hardly be safe to assume that the hands and fingers of the barmaid or barman are scrupulously clean, and therefore the use of the tumbler or the handleless goblet in public places of refreshment is open to objection. We are quite sure that this argument will appeal to all cleanly persons, and that they will agree that it would be much more satisfactory if vessels with a handle were employed in public-houses, or if all glasses were provided with a stem. After all, the function of the stem and handle of drinking vessels is much the same thing, and in view of the above facts glasses either with stems or handles should be reinstalled in those places of refreshment where they have been discarded.

THE HAROLD BARNARD MEMORIAL FUND.

WE have received a circular letter signed by a committee consisting of the Honourable Sydney Holland, Dr. W. J. Hadley, Mr. E. Hurry Fenwick, Dr. A. Dashwood Howard, Dr. R. C. B. Wall, Mr. James Sherren, and Professor Arthur Keith, and stating that soon after the lamented death of Mr. Harold Leslie Barnard a number of his colleagues, friends, and pupils met to determine the best manner in which they could recognise his services to the London Hospital and to the progress of surgery. An examination of the manuscripts, unpublished observations, papers, and drawings which he left behind him made it clear to his friends that they owed him a double duty, not only to keep alive his memory, but to see that the results of his brief but laborious experience, of his keen observation and study, and of his vivid and over-watchful imagination are suitably preserved for the use and advantage of all who serve the cause of medicine and surgery. It is proposed that Barnard's name be perpetuated by the publication of a memorial volume, which will include all his contributions to abdominal surgery. From the time he joined the staff of the London hospital in 1900 he concentrated his energy and ambition on the production of this work, but he died when his task was approaching completion. He had engaged two of his former pupils—Dr. F. Wood-Jones and Mr. Stanley J. A. Beale—to prepare drawings of his specimens for this work; these drawings are of special merit and will enhance the value of the work, but at the same time will add to its cost. It is hoped, therefore, that his friends and pupils will support liberally the attempt to fulfil the ambition of Barnard's career. The cost of publication of such a volume is estimated at £200. In the event of a sufficient sum being subscribed to cover the expense of publication it is proposed that each subscriber should be presented with a copy, but in the event of the total subscription falling short of the cost of publication that only those who subscribe 10*s*. 6*d*. and over should be entitled to a copy, the remaining copies being placed on sale. Mr. Sherren has offered, and the memorial fund committee has accepted, his services as editor of the work. A short biography, with photographs, will be contributed by his friend and pupil, Dr. H. H. Bashford. Dr. Cecil Wall, to whom Mr. Barnard confided his manuscripts and papers, has consented to act for the committee as honorary secretary and treasurer. The committee appeals with confidence to Mr. Barnard's friends and pupils to assist them liberally and promptly by forwarding their subscriptions to the honorary treasurer, at 6, Cavendish-place, Cavendish-square, London, W. This is an appeal which should commend itself strongly to all who knew Mr. Barnard and appreciated his tireless work in the cause of surgery. No more proper monument can be raised to any truly scientific worker than is to be found in his own writings, and we trust that the committee making the present appeal will meet with the support it rightly looks for and will be able to enshrine Mr. Barnard's contributions to surgical literature in a form worthy of the reputation which their author found time in a too short life to win.

AN AUTOBIOGRAPHICAL ACCOUNT OF THOMSEN'S DISEASE.

NOT since Thomsen's classical description of this disease in 1876 has it befallen the physician reporting it to be himself the sufferer. In the *Montreal Medical Journal* for November, 1908, Dr. Arthur Birt of Halifax, Nova Scotia, has devoted an article to the subject of the disease as it occurs in himself and his own family group. The diagnosis was made by the writer while he was still a medical student and it has since been amply confirmed. Ever since he can remember he has been afflicted with a painless stiffness and cramp on first attempting any voluntary movement, especially after rest. When a schoolboy he found this stiffness to be a source of great disability in sports and games All the muscles of the body were liable to the condition, including those of the eye, tongue, and jaw, and since early manhood there has been no appreciable change. At the present time, conformably to the usual rule, the musculature is exceedingly well developed, although no systematic exercise has ever been taken for any lengthened period. The muscles feel firm to the touch, they quickly harden on palpation, and if they are put into strong voluntary contraction they are found for a number of seconds to be of iron hardness, which, however, rapidly passes off. The peculiarity of movement is entirely restricted to voluntary movement; the patient, on rising from a chair to walk away, is checked in his first step by a painless cramp of the extensors, and a similar accident occurs in the other leg before the cramp in the first has subsided. When the second movement forward of the first leg is initiated the spasm has not yet relaxed, but the cramp this time is of less duration, so that with each succeeding stride the period of cramp becomes rapidly less and a normal gait is attained. In shaking hands firmly there is often inability to relax the finger flexion quickly, a trifle, as the writer observes, "which may give rise to misconstruction in ordinary social intercourse." The characteristic electrical reactions of the disease are readily obtained in Dr. Birt's case—viz., marked prolongation of the contraction both to faradism and galvanism, wave-like contractions from cathode to anode with the stabile method of application of the latter; there is also prolonged contraction on mechanical stimulation of the muscles. A sister of the writer suffered severely from the disease and died at adolescence; another sister shows traces of it, and two cousins are definitely affected. In the family there is a very clear neuropathic diathesis.

THE ADMISSION OF WOMEN TO THE DIPLOMAS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

WE have received from Dr. A. S. Morton and Dr. W. G. Dickinson, as secretaries of the Society of Members of the Royal College of Surgeons of England, a copy of a memorial sent by that society to the Home Secretary to protest against the mode of admitting women to the diplomas of the College. which is at present under Mr. Gladstone's consideration, The chief arguments used to support this protest are as follows. (1) That the effect of admitting women under the Act of 1876 will be to create an inferior order of Fellows and Members without any share in the management of the College; (2) that under this Act women Members of the College will be barred for all time from acquiring the position which it is hoped that the Members may ultimately gain in that management; (3) that the adoption of this Act by the Council of the College is a retrograde step in view of the position which women have attained in the medical profession since 1876, and that it is opposed to the policy of all modern Universities; (4) that a difference in policy on this matter between the Royal College of Surgeons of England and the University of London will create an added difficulty in the negotiations in which delegates from those bodies and from the Royal College of Physicians of London are engaged; and (5) that at the last annual general meeting of Fellows and Members a motion was carried unanimously—

> That this meeting is of opinion that women when admitted to the diplomas of the College should have equal rights with men.

It may be of interest to our readers if we add the text of the proposed new by-law, to which previous reference has been made in THE LANCET:—

Section XXVI. Admission of Women.

1. Pursuant to the powers conferred by the Medical Act, 1876, and subject to the provisions therein and hereinafter contained, women may be admitted as Members and Fellows of the College and may obtain Diplomas in Dental Surgery on the same terms and conditions as men; and so far as it is necessary to give effect to this by-law, words in the By-laws and Regulations of the College which import the masculine gender shall also import the feminine gender, and all proper alterations shall be made in the form of the Letters Testimonial, Diplomas, Certificates, [illegible]

2. Women shall not [illegible] not vote at, or take any [illegible] the Council, or atten[illegible] Members (except meet[illegible] Orations), or otherwise take any part in the government, management, or proceedings of the College.

3. Women shall not be eligible as members of the Court of Examiners or for any examinership to which the Council appoint.

One more of the arguments used by the Society of Members in its protest to the Home Secretary is that paragraphs 1 and 2 of this draft are contradictory. We are unable to follow this reasoning. It appears to us that the words "subject to the provisions ...... hereinafter contained" in the first paragraph fully cover the exception made in the second.

THE LONDON COUNTY COUNCIL AND INFECTED EARS.

A FEW months ago[1] we recorded that the London County Council had made arrangements with the Queen Victoria Jubilee Institute for Nurses for the treatment of school children suffering from infected ears. The scheme provided that cards should be given to the parents intimating that free nursing treatment would be provided after a medical man had been consulted. We commented on the somewhat inconsequent action of the Council in prescribing on the card the treatment to be adopted (a course which left the medical man in charge of the case nothing to do but to sign his name) and at the same time adding, "It must be understood that the London County Council will accept no responsibility for the treatment prescribed or given." Other protests have been raised against this form of card, which has accordingly been redrafted. Instead of advising the parent to consult his own medical attendant or to "take the child to a hospital for medical advice," the parent will in future simply be notified that the Council is prepared to provide treatment "if recommended by a medical man." Then on the reverse side of the card a space is provided for the medical man to write his own prescription. As the whole question of the medical treatment of London school children is now under active discussion the treatment of infected ears will doubtless be brought into line with that of other ailments.

"INTESTINAL SAND" DUE TO THE BANANA.

MANY cases of the rare condition termed "intestinal sand" have been carefully investigated, but the subject is still involved in some obscurity. Two forms—true and false—have been distinguished. False intestinal sand is said to be composed of the remains of vegetable food which have resisted digestion with possibly an incrustation of earthy matter. In true intestinal sand such vegetable basis is said to be wanting; there is a much larger proportion of inorganic matter. This sand is therefore supposed to be an intestinal excretion. It is almost always associated with intestinal disorders, usually with membranous colitis. Among vegetable foods the pear is especially apt to produce intestinal sand, as it contains many sclerenchymatous particles which appear in the motions. The banana has been found by American writers to have a similar aptitude. In the *American Journal of the Medical Sciences* for March Dr. J. S. Myer and Dr. J. E. Cook have reported a case and shown that "intestinal sand" may be produced *ad libitum* by eating bananas. They make a very reasonable suggestion which simplifies the whole subject—that all "intestinal sand" is due to vegetable remains, and that when a large amount of salts is deposited the vegetable nucleus is overlooked. The alternative hypothesis that the sand is an intestinal secretion does not account for the 30 to 70 per cent. of organic matter which it has been found to contain. The fact that true intestinal sand is associated with intestinal symptoms Dr. Myer and Dr. Cook suggest is accidental, excepting constipation, which would favour deposition of salts. The association can be explained by the fact that only when intestinal symptoms are present are the fæces likely to be examined and sand observed. Mucous colitis, the disease in which sand has been most frequently observed, is also the disease in which the stools are most frequently examined; but only in a small minority is sand found. The following is the case now reported. A woman, aged 24 years, complained of fulness in the abdomen and chronic constipation. The abdomen was tense and slightly tympanitic. The stools were intimately mixed with small black or brown sand-like granules. A stool was washed through a fine sieve and the greater part of the sand was found in the water. It was brownish and felt gritty. Under the microscope the sand was seen to consist of irregularly shaped more or less oval grains, varying in size from 0·05 to 0·2 millimetre in diameter. They were translucent and varied in tint from light yellow to dark yellow, brownish, and greenish yellow. By reflected light they had a beautiful appearance, resembling variously coloured quartz. They were hard and brittle and were crushed with difficulty under the cover-glass. On applying a strong acid gas was evolved and the sand became of a lighter yellow colour. Chemical analysis showed 17·2 per cent. of moisture; the residue contained 95·8 per cent. of organic matter. The inorganic portion consisted principally of phosphate of calcium. The high proportion of organic matter pointed to a vegetable origin. By ingestion of various vegetables they endeavoured to produce sand artificially, but failed. The presence of a chain of sand with two or three fibro-vascular bundles originating from a common point and separated by a mass of parenchyma cells suggested a remnant of banana tissue. It was then found that on eating one or two bananas intestinal sand could be found in the motions in quantities varying from a teaspoonful to a tablespoonful in the 24 hours for several days, and in cases of constipation for much longer. As a rule, the grains were found singly, but also in chains if the stool was not manipulated too much in washing. If a banana is cut transversely and exposed to the air light brown markings appear on it. Under the action of perchloride of iron they form rapidly as black strands, which under the microscope were found to be identical with the grains of sand in the fæces. These strands are the "milk tubes" of the banana and are composed of cells containing a resin suspended in a fluid rich in tannin. The action of the intestinal secretions on the resin forms the sand.

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[1] THE LANCET, Feb. 13th, 1909, p. 488.

BOARDS OF GUARDIANS AND PUBLIC VACCINATORS.

FOR many years there has been much dissatisfaction amongst public vaccinators as to the conditions under which they are called upon to do their work, and although a departmental committee which sat a few years ago made certain recommendations, some of which were calculated to improve the position of the officers concerned, the Local Government Board has up to the present only acted upon such of the recommendations as were to the detriment of the public vaccinators. This is not, we think, quite the proper spirit in which a State department which depends so much upon the medical profession for its status in the country should act—that is to say, if the department desires to receive that support from the medical profession without which it would find administration a difficult matter. If there is one thing more than another to be read between the lines of the Royal Commission on the Poor-laws it is the appreciation of the services of the medical profession and a demand for its employment in greater degree than formerly. The duties of the public vaccinator are already sufficiently onerous and, with general slackness as regards the administration of the Vaccination Acts, they are steadily increasing. The most recent development is a growing disposition on the part of boards of guardians to make the post of public vaccinator dependent, as it were, upon that of district medical officer and *vice versâ*, the advantage to the guardians of this fictitious arrangement being that when a public vaccinator who is also a district medical officer resigns his post as public vaccinator because of the smallness of the fees and the difficulties of the position his appointment as district medical officer is also terminated. And conversely, when a district medical officer, who is also public vaccinator, relinquishes his position in the former capacity because it is not consistent with his conscience to supply medical advice and medicine for less than twopence per attendance his contract as public vaccinator is forthwith terminated. Instances of this kind of treatment have recently been brought to the notice of Mr. Burns by the Association of Public Vaccinators, and he has been asked to receive a deputation upon the matter as well as upon the question of the security of tenure of public vaccinators as recommended by the departmental committee already referred to. This request for an interview has, however, been refused, and the petitioners have been told that in the opinion of the Board when the offices of public vaccinator and district medical officer are held together the remuneration of each office should be proportioned to the duty of each office, but that when an officer is required to devote his whole time to public appointments the guardians may properly have regard to the total remuneration which will accrue to him in respect to those appointments. As to the question of security of tenure, the Board states that it has no powers under the existing law to grant such security. Both these replies seem to us somewhat evasive and illogical. The appointments of district medical officer and public vaccinator are quite distinct; according to this ruling of the Board the district medical officer might be called upon to do the vaccinations for nothing, which is, of course, absurd. As to the other point, it is, we presume, common knowledge that fixity of tenure would require legislation, and the public vaccinators in wishing to discuss the matter with the President of the Local Government Board were probably anxious to induce him to introduce a Bill into Parliament giving effect to the recommendation of the departmental committee which either he himself or his predecessor in office must have appointed. The public vaccinators are greatly to be sympathised with. The departmental committee prescribed some stones and some bread. The stones have already been thrown with disastrous effect, but when the public vaccinators ask for the bread the departmental granaries are empty. The attempts which are being thus indirectly made to cut down the pay of district medical officers must be strenuously resisted, more particularly so when this fact is considered in conjunction with the circumstance that greater attention is daily required from these officers and that the cost of living and medical education is steadily rising. If the public medical service of the country is to improve in proportion with the demands made upon it by the public, that service must receive greater recognition by the State than has hitherto been the case.

THE LARYNGITIS OF MEASLES.

IN another column we publish an article by Dr. A. A. Warden, entitled "A Plea for the Use of Anti-diphtheritic Serum in the Laryngitis of Measles." Although we cannot altogether support this plea, yet the communication is of value in drawing attention to a most grave complication of measles—namely, diphtheria. Some degree of catarrhal laryngitis is so common in the course of measles that it can almost be considered a symptom of the disease rather than a complication, and therefore if Dr. Warden's suggestion were adopted—namely, "In the laryngitis of measles do not wait for a bacteriological diagnosis but at once inject antidiphtheritic serum"—this procedure would have to be carried out in nearly every case. If, however, this dictum were to be applied to every instance in which a membranous laryngitis occurs, then Dr.

Warden's suggestion might well be followed. Indeed, it is possible that this is what he intends to imply, and if such be the case we endorse his advice. The membranous laryngitis may be produced by pyogenetic cocci, but this can only be positively distinguished from diphtheritic membrane by bacteriological culture, and much valuable time would be lost in waiting for the result to be received from the laboratory. The success of the antitoxic treatment is considerably greater if it be employed at an early stage of the disease, and therefore practitioners would be taking a wise course in administering the antitoxin in cases of measles in which a membranous laryngitis makes its appearance.

NASAL CRISES IN TABES DORSALIS.

THE day is passed when tabes dorsalis was considered a disease to be limited to the posterior columns of the spinal cord. The field covered by locomotor ataxia in its manifestations has been very greatly extended, till now it is admitted there is no part of the nervous system, central or peripheral, which may not be the seat of the tabetic process. The aspects under which the disease may present itself are so variable that the clinician cannot afford to neglect any of them. In a recent number of *La Semaine Médicale* M. Klippel and M. Lhermitte have directed attention to a little known corner of the tabetic field, one which, however, concerns the general practitioner as much as the professed neurologist. They have written an instructive paper on affections of the gustatory and olfactory apparatus in tabes, and the clinical cases which they quote emphasise once again the extreme importance of recognising that the symptoms for which the patient consults his physician may be but a purely local indication of a much more widespread condition. M. Klippel and M. Lhermitte consider that the nasal crisis of the tabetic may be represented by one of three differing types—viz., sensory, spasmodic, and secretory—although this division is somewhat schematic. The disturbance, of whatever type it be, may occur in those who show a permanent defect in their olfactory sense as well as in those whose smell is normal. The common impairment found in the subject of tabes is partial or complete anosmia, with hypoæsthesia of the face and nasal mucosa, and vaso-motor or trophic changes in the olfactory mucosa itself. In the first variety of nasal crisis the patient feels a pricking sensation at the root of the nose, a disagreeable tickling in his nostrils, and then suddenly experiences a strong and unpleasant subjective odour commonly compared to that of rotten eggs. Occasionally it is associated with an equally unpleasant taste in the mouth. Among the many instances quoted by the authors are cited those described by Mr. Herbert Tilley[1] 14 years ago as three cases of parosmia, and the suggestion is made that they were in reality cases of tabes in which the ordinary symptoms of the condition were not present or not recognised. They do not ignore the occurrence of similar phenomena in intracranial tumours of a particular localisation, but the diagnosis presents no real difficulty. The spasmodic type of nasal crisis is characterised by attacks of sneezing; one of their patients used to notice a sensation of coolness and of pins and needles over the left half of the face and then sneezing set in; it was sometimes accompanied by flashes in front of the left eye and bilateral tinnitus. An instance is given where this form of nasal crisis proved to be the first symptom of tabes. Sometimes the crisis is succeeded by a flow of tears or of mucus from the nose; in practically every case some objective modification of facial or olfactory sensibility can be discovered. Where there are definite vaso-motor or secretory phenomena we are dealing with the third or rhinorrhœic form of nasal crisis. One of the cases concerned a patient with locomotor ataxia, whose attack always began with a series of short abrupt respirations, followed by a bout of sneezing of several minutes' duration. As soon as these spasmodic phenomena ceased, a slightly viscid reddish fluid poured from the nose, soaking a handkerchief in very little time; towards the end of the flow it became clear and much more watery. Examination of the nasal fossæ revealed no abnormality whatever, but there were changes in cutaneous, mucous, and olfactory sensibility. The differential diagnosis of these symptoms may no doubt be difficult, but the discovery of any of the classical signs of tabes is very significant, in particular any notable alteration in sensibility in the distribution of the trigeminal nerve. In one of their cases M. Klippel and M. Lhermitte have found unmistakeable histological changes in the olfactory bulbs. Of the encephalic manifestations of the tabetic process several are, of course, very well known, in particular optic atrophy. Sir William Gowers has drawn attention to the occurrence of "auditory atrophy" in the shape of constriction of the auditory field, and this latest contribution to the subject is equally suggestive and likely to repay research.

AT a meeting of the Royal Society on May 6th the secretary announced that Colonel Sir David Bruce, who is in charge of the Sleeping Sickness Commission at present in Uganda, had cabled to the Society on April 3rd to report that the Commission had confirmed Kleine's observations on the period during which the tsetse fly was capable of transmitting a trypanosome infection. A letter had been received by the Society on April 30th from Sir David Bruce, dated Mpumu Chagwe, Uganda, April 3rd, confirming the telegram, and stating that the Commission had "repeated Dr. Kleine's experiments with *Trypanosoma gambiense* and *Glossina palpalis*, also with a trypanosome of the dimorphon type and the same Tsetse-flies, and found the flies infective after 16, 19, and 22 days."

THE EARLY RECOGNITION OF UTERINE CANCER.

AT the annual meeting of the British Medical Association at Exeter in 1907 the Section of Obstetrics and Gynæcology adopted a resolution requesting the Council of the Association to appoint a committee to consider the best means of disseminating knowledge of the importance of the early recognition of uterine cancer. That committee presented a report which was considered, and generally approved, by the same section of the annual meeting of the British Medical Association in Sheffield in 1908. At its meeting on April 28th, 1909, the Council of the British Medical Association approved for publication the appeals to medical practitioners, and to midwives and nurses, and directed that they should be communicated to British and colonial medical and nursing journals. We have consequently received from the Editor of the *British Medical Journal* the appended important document addressed in its main bulk to all medical practitioners, but with a brief and earnest note to midwives and nurses appended:—

A.

AN APPEAL TO MEDICAL PRACTITIONERS TO PROMOTE THE EARLIER RECOGNITION OF UTERINE CANCER.

The attention of all medical practitioners is directed to the necessity of emphasising the curability by operation of uterine cancer in its early stages.

The adoption of a more extensive operation by the abdominal route has made it possible to deal successfully with cases hitherto regarded as inoperable, and to remove more of the pelvic cellular tissue as well as a portion of the vaginal walls; it is in these situations that recurrence is prone to develop.

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[1] THE LANCET, Oct. 9th, 1895, p. 907.

Many patients now present themselves for examination and treatment when the disease is considerably advanced, and it is hoped that by a widespread and accurate knowlege of the early signs and symptoms the number of such patients will gradually diminish.

Special attention is directed to the following:—

1. Cancer of the uterus is at first a local disease.
2. Cancer of the uterus *is often* a curable disease.
3. Operation is the only satisfactory method of treatment.
4. The earlier the disease is recognised the more hopeful are the prospects of treatment.
5. The risk of operation in early cases is slight and the chance of permanent cure is good.
6. The recognition of early cancer is not usually difficult, *and the disease should not be overlooked* by the medical attendant.
7. A medical practitioner who fails to make a physical examination of a patient exhibiting any of the symptoms of uterine cancer incurs grave responsibility.
8. Treatment of symptoms without a physical examination is unjustifiable.
9. Early cancerous ulcers should not be treated with caustic; their appearance becomes masked, and valuable time is lost.
10. It is an error to wait and observe in order to arrive at a diagnosis.
11. In doubtful cases a diagnosis must and can be made in a few days.
12. To examine, to diagnose, and then to treat, should be the rule in all cases.

Symptomatology.

Uterine cancer is at first a painless disease which does not affect the general nutrition.

The early symptoms of cancer are: Irregular bleeding of any description, even if there be only traces; bleeding post coitum; and watery, blood-tinged discharge. There may be no loss of strength or wasting, nor any condition to alarm the patient. Pain, wasting, profuse bleeding, and foul discharge indicate advanced disease.

As the majority of cases occur between the fortieth and fiftieth year the symptoms are too often regarded by the patient as due to "change of life." The medical attendant should not accept this assumption until he is satisfied that cancer does not exist.

Bleeding, however slight, occurring after the menopause, should give rise to suspicion that cancer is present.

Examination.

If a patient with any of the above symptoms comes for advice, a careful visual and bimanual examination must be made before any treatment is recommended.

[illegible] ponement until the hæmorrhage has ceased.

It is most important to observe rigid aseptic precautions in all manipulations.

In the examination, the condition of the vaginal portion of the cervix and of the cervical canal should be carefully noted.

In the early stages new growth may be found on the surface of the vaginal portion of the cervix, in the lining of the cervical canal, or in the substance of the cervix. Any prominence on the surface of the vaginal portion or any ulceration—i.e., a definite loss of substance—should at once arouse suspicion. A nodule or nodules, hard, inelastic, or irregular in outline, felt in the substance of the cervix suggest the presence of cancer. If the whole cervix be affected the relative hardness as compared with the soft elastic body is pronounced.

The detection of high-lying cervical cancers and cancers of the body of the uterus is only possible after curettage or digital exploration.

The signs common to the early stages of cancer of the cervix uteri are:—

(1) The definite occurrence of new growth on the surface of the vaginal portion of the cervix, in the lining of the cervical canal, or in the substance of the cervix;
(2) Friability;
(3) Bleeding on manipulation.

(1) The definite occurrence of new growth on the portio vaginalis or in the cervical canal cannot fail to arouse suspicion. When, however, thickening of one lip or a portion of one lip of the cervix exists, the nature of the growth is difficult to determine if the mucous covering be still intact. It is then necessary to remove a portion of the affected tissue and examine it under the microscope.

(2) Friability is a sign of the greatest importance, and may be tested by the finger-nail, curette, uterine sound, or an ordinary long probe. Degrees of friability exist in early cases, depending upon the amount of interstitial tissue contained in the growth.

(3) The occurrence of free bleeding after the slightest manipulation *is, when combined with friability*, a valuable diagnostic aid.

Forms of Uterine Cancer.

Vaginal portion of the cervix.

(1) *Infiltrating type.*—In this type, one lip, or a portion thereof, or even the entire vaginal portion of the cervix, is infiltrated with cancerous growth. Ulceration occurs early from the surface inwards, or necrosis may begin in the centre, and opening on the surface, lead to the formation of a deep ulcer, with undermined edges. The growth is somewhat hard in consistence, but is still friable if tested with the probe, curette, or finger nail.

(2) *Papillomatous or polypoid type.*—This includes the so-called cauliflower excrescence, and is characterised by the growth from the margin of the os externum of a rounded or flattened tumour, varying in size, which may or may not have a definite stalk. It has a papillary surface, bleeds readily, and is very friable. More rarely it resembles a bunch of soft papillomata. Portions of the growth, pale red or greyish yellow in colour, are easily detachable on examination.

(3) *Superficial flattened type.*—This is characterised by a flattened growth on the vaginal portion which tends to spread over its surface. It is prone to early ulceration and is frequently seen clinically as an ulcer. The lip or portion affected is thickened. The ulcer has a sharply defined, raised edge, indented at places, yellowish grey, finely granular surface, a moderate amount of loss of substance, and an infiltrated base. It bleeds readily on touch and the amount of hæmorrhage is entirely out of proportion to the amount of injury inflicted. The finger-nail can detach small pieces from its surface.

Cervical Canal.

(1) *Superficial type.*—The inner surface of the cervical canal is lined by an irregular papillary growth which at first attacks the substance of the cervix superficially. As the growth increases portions of it may protrude through the external orifice of the cervical canal. When ulceration occurs the superficial portion of the growth is shed, with consequent hollowing out of the cervical canal, whilst the remainder of the periphery of the cervix is more or less thickened by infiltration. Where the external os uteri is narrow the process may be hidden, or patency of the os uteri may be produced by destruction of its margin, whilst in uteri where the os is already wide a crater-like cavity is formed.

(2) *Infiltrating type.*—The cancerous infiltration proceeds from the mucous membrane deep into the tissues of the cervix, and thus the whole cervix becomes thickened and enlarged, or the enlargement and infiltration may be limited to one or more portions of the cervical walls. Necrosis may commence on the mucous surface, or in the centre of the infiltrated area and may lead to extensive destruction of the cervical tissues.

Probably the majority of cancer cases which are overlooked are examples of disease affecting the lining of the cervical canal or the tissues of the wall of the cervix.

Cancer beginning in the cervical canal is not difficult to detect where the os uteri is dilated as in many multiparæ. The finger passed into the cervical canal feels irregular elevations or nodules from which portions may be removed. Free hæmorrhage follows this manipulation. Difficulty arises on this question of salaries the Commissioners are apparently throwing overboard the memorandum of their medical Commissioner on the subject, and that they treat an expression of his opinion that highly qualified medical men are lost to dispensary service in Ireland on account of its insufficient emoluments, as if this were a matter of but trivial importance to the public service and to the patients concerned. We note, however, that the Commissioners appear to recommend the fixing of salaries on a uniform principle and the provision of substitutes during a fixed holiday. They also say:

> The appointment and control of surgeons and physicians in the county infirmary, fever hospitals, district and cottage hospitals, and of the dispensary medical officers, by the Pu[illegible] unify the medical service of the county. authority of a county medical superinten[illegible] viso the district medical officers of health, will lead to close coöperation between the medical and public health services.

In giving a brief outline of the recommendations of the Majority of the Commission we have omitted detailed reference to general questions of poor-relief. We may mention, however, that with regard to children, extension of boarding-out is recommended with suitable inspection, and that the policy recommended for England and Wales is otherwise adhered to. We have also refrained from citing what we may call the narrative portions of the report, so far as they relate to workhouse conditions, although these may be perused with considerable interest. They appear to prove that in Ireland institutional conditions, varying under different degrees of good or bad management, are frequently very bad indeed. They may be no worse than those to which the inmates have been accustomed in their own homes, but in Ireland, even more than with us, it is desirable that this standard should often be disregarded. Public Assistance Authorities and Committees and Voluntary Aid Committees will have before them, if and when they are instituted, a prospect of useful and very arduous work if they desire to perform their functions effectively, and in Ireland, as in England, new conditions and higher standards may be found to impose considerable strain upon those who voluntarily devote themselves to public service.

The Minority Report, occupying three pages only, bases its disapproval of the Majority Report principally on the non-elective character of the Public Assistance Authorities and Committees, combined with the influence assigned to Voluntary Aid Committees, and upon features in the report which, in the opinion of the signatories, tend to perpetuate Poor-law characteristics in distribution of relief. They also refer to the departures of the Commission from the recommendation of the Viceregal Commission as "momentous" and as not justified either by the limited time at its disposal for the investigation of Irish conditions or by the evidence before it. They deprecate any hasty legislation on the lines of the report. With regard to medical matters, they express dissent from the recommendations of the Majority, and claim the support of the medical member of the Irish Local Government Board for their views, but do not refer to the proposal with regard to a State medical service advocated by the Viceregal Commission, and their criticism is not quite easy to follow owing to the small space which they have been able to devote to it. In conclusion they say: "Ireland even more than England or Scotland appears to us to be ready for the policy of 'break up the Poor-law and abolish the workhouse.' In our judgment any attempt to set up a new Poor-law and a new Poor-law authority under whatever name would be a repetition of the mistake of 1838. We have already indicated tentatively in our Report on England and Wales the way in which the various proposals with regard to the treatment of the infants, the children, the sick, the mentally defective, the infirm, the aged, and the unemployed able-bodied respectively, to which our investigations have led us, might be made applicable to Ireland. To these proposals and tentative suggestions we need, therefore, now do no more than refer."

CONVALESCENT HOMES ASSOCIATION.—The fourth annual meeting of this association will be held in the committee room at 32, Sackville-street, London, W., on May 20th, at 4.30 P.M. Sir William S. Church, Bart., K.C.B., will take the chair. The report for the year 1908 will be submitted and the object and work of the association will be explained.

SANITATION IN INDIA.

IV.[1]—JAILS.

Bombay.

THE report for the Bombay Jail Department for the year 1907 is contributed by Mr. H. N. Alexander, the Inspector-General of Prisons, Bombay Presidency. We are first presented with the usual statistical results, from which it is seen that the total population of all classes of prisoners confined in the prisons, subsidiary jails, lock-ups, and civil jails during the year 1907 has been 87,250, against 92,408 in 1906, the daily average population having been 8854, showing a decrease of 503 over the figures of the latter year. Whilst there is this general diminution, certain jails show a marked increase, such as Karachi, Hyderabad, and Sukkur, chiefly due to the great activity shown by the police in prosecuting bad characters under Chapter VIII. of the Criminal Procedure Code.

With respect to the disposal of convicts, we see that there was considerable overcrowding in Sind prisons during certain portions of the year, and this resulted in an appreciable increase in punishments. Thus at the Central Prison, Hyderabad, the increase in punishments did not begin to show itself until the prison became uncomfortably overcrowded, and then every class of offence rose rapidly. Assaults became somewhat frequent and the superintendent found considerable trouble in exacting tasks, and many penalties for these classes of offences had to be inflicted. The effect of this overcrowding was doubtless aggravated by the natural propensities of the Sindhi prisoners. The latter always give a good deal of trouble when they first arrive at a prison in the Presidency proper. Lazy by nature, they try every dodge, and take much punishment before they settle down to work; thus, of the 13 floggings for violent assaults recorded, ten were inflicted on Sindhi prisoners.

Coming now to the vital statistics for the Bombay jails, the total number of deaths for 1907 was 180, or a ratio of deaths per 1000 of 20·3, as contrasted with 204 and 21·8 per 1000 for 1906. As regards the chief diseases responsible for the sickness and mortality, dysentery, respiratory disorders, and malaria were the affections not showing a decline over the corresponding numbers of the previous year. Pneumonia was rather prevalent in some of the jails; thus in Sind gang there were 54 attacks, with 13 deaths. Precautionary measures here were at once adopted, which resulted in the mitigation of the severity of the disease, but not in its eradication. The pneumonia here was doubtless due in some measure to the great and rapid atmospherical changes. Again, in the Hyderabad Central Prison, out of 33 deaths 18 were due to pneumonia The medical officer writes: "There was overcrowding from May to the end of the year, and for some months cases of respiratory diseases with fevers were very numerous. Most of them were mild, but a few of them went on to pneumonia, of which disease there were 18 deaths during the year." In the Dhulia Prison the Inspector-General remarks on the part played by an indifferent water-supply on the amount of sickness. All the water is boiled, but it is not at all certain that the prisoners only drink the water that had been boiled. As the municipality is now constructing filter beds, an improvement in the water-supply may be expected in the future. There were no cases of cholera during 1907 in the Bombay jails. The following measures were adopted during the year under report with a view to improve the health of the prisoners. To relieve overcrowding in barracks tents were erected; the prisoners were given an allowance of wheat and rice in lieu of *bâju* and *jowâri*; weakly prisoners and convalescents had extra rations; working prisoners in the Deccan gang had two ounces of extra flour; quinine was issued as a prophylactic; potatoes and onions were given in place of green vegetables; extra warm clothing was issued when necessary; and lastly, Professor Haffkine's prophylactic serum was inoculated. With regard to the latter precaution there were eight cases of plague, with three deaths.

The two new prisons at Sukkur and Karachi are likely to prove healthy. At Sukkur Captain Murison, I.M.S., the superintendent, remarks on the total absence of cases of heat stroke during the year, as contrasted with the admission [illegible] l has proved decidedly [illegible] which is now disused.

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[1] Nos. I., II., and III. were published in THE LANCET of April 10th (p. 1067), and 24th (p. 1199), and May 1st, 1909 (p. 1269), respectively.

Central Provinces.

Major W. B. Lane, I.M.S., the Inspector-General of Prisons, furnishes the report for those of the Central Provinces. Here, again, it is satisfactory to find that the number of prisoners, which has been steadily decreasing since the year 1903, continues to show a further fall in 1907, and this decrease also embraces that in the number of juvenile prisoners under 16 years of age. But although there was this general decrease, it was found that there was an increase in the number of persons admitted who were in Government employ—namely, from 196 in 1906 to 235 in 1907. Another point observable is the rise in the number of short sentences not exceeding three months. It is very difficult to make life penal for those undergoing very short sentences; they cannot be taught any trade, cells are not available for the grinding of grain, and they are nearly always put to work in the garden, which is not penal; having once been in jail the boundary line is passed and imprisonment becomes no deterrent after such an experience. There was a great increase in this respect in the Raipur central jail, there being 223 admissions in 1907, as against 142 in 1906. Major Lane urges that the punishment in these cases should be more real, and suggests certain lines on which this could be effected.

An important measure for the separation of habitual prisoners sentenced to six months and over has been sanctioned; under this sanction these prisoners are now to be transferred to central jails. Hitherto it has been the practice to transfer long-term prisoners from the central jail to the district jail nearest their homes two months before [illegible] placed. Major Lane has reduced this period and now all such prisoners are transferred not more than a fortnight before their release, and are also as far as possible separated from the other casual offenders in the district jail. Thus contact between hardened habitual criminals and the comparatively harmless class of casual offender will be in a great degree prevented. But not only is the future of the casual offenders looked after, but the Inspector-General has interested himself in that of the habitual. This problem of providing for habitual prisoners after their release is a difficult one. In Nagpur several such prisoners were given employment in the secretarial press. The results, however, so far are not encouraging, only one man out of the six so employed having remained in this employment, but, as the Inspector-General remarks, this "is something gained."

Coming now to the vital statistics of the jails for the Central Provinces, the ratio per 1000 of daily average sick showed a marked fall, but there was a large rise in the death-rate, which rose from 13 to 18 per 1000 in respect of convicts, and from 20 to 29 in respect of under trial prisoners. However, with respect to this, it must be remembered that this death-rate of the previous year was exceptionally low, and less than that returned by the jails of any other province, whilst the death-rate of 18 per 1000 in 1907 is still quite low, and compares favourably with that of any place or any class of people in India. Out of 63 deaths 19 occurred in Raipur alone, dysentery accounting for seven or half the total number of deaths from this cause in the jails of the whole province. The occurrence of the dysentery does not receive any explanation as to whether it was due to the exceptionally bad health of the admitted prisoners that was present, or whether it was due to any cause or defect in the conditions of sanitation or dieting in the jail. In the Amraoti central jail, again, five out of the seven deaths reported were due to dysentery. With respect to this disease as it presented itself as a whole in the jails, we see there was a fall in the admissions from 119 in 1906 to 103 in 1907, although the number of deaths rose from seven to 14. There was only one case of plague, and no case of cholera. Malarial fever showed a decrease of 146 cases from 641 cases in 1906 to 495 in 1907. Quinine was issued as a prophylactic at some jails, but the Inspector-General can draw no deductions as to its efficacy or otherwise. Captain P. Prentice, of the Balaghat district, thinks with regard to prevention he has reduced the number of cases by rubbing the exposed parts of prisoners' bodies with a mixture of tilli and kerosene oil. Incidentally with respect to the admissions of malaria, Captain W. H. Kenrick, in his report of the Saugor jail, made the important observation that quite 50 per cent. of the cases said to be malaria were really not malaria at all, but a form of spirillosis caused by a spirochæte transmitted most probably by the bite of a tick or bed-bug. He considers that the majority of cases of malaria occurring in jails are really cases of this nature and not malaria, quinine having no effect upon them; they recover just as soon untreated, whereas the genuine cases of malaria are very few. Microscopic examination is necessary to distinguish the two diseases. In concluding his interesting report Major Lane gives well-deserved commendation to, and mentions with praise the names of, several of the jail superintendents. We are glad to see this, as such mention always stimulates to good work.

Bengal.

Lieutenant-Colonel W. J. Buchanan, the Inspector-General of Prisons, Bengal, submits the report for this province. We are extremely glad to note that the wise proposition of this energetic officer with respect to the separate and special treatment of juvenile prisoners has been definitely agreed upon by the Government of Bengal. Last year Colonel Buchanan strongly recommended a scheme for making better provision for this separate and special treatment. He rightly was of strong opinion that any attempt to reform prisoners could only expect a successful result if such prisoners were obtained young, and when so obtained were treated separately from the adult prisoners, for if at their impressionable age they came into contact with the latter, they would be apt to deteriorate rapidly and to learn all the worst tricks and vices of adult criminals. He proposed, therefore, that a juvenile jail in Calcutta should be established, and asked that the premises now used as the Alipore Reformatory School should be restored to the jail department to which they formerly belonged. In commenting last year on this proposition we held "that this common-sense reform was eminently desirable, and trusted that the Government would fall in with the wise and humane views of this able administrator." The Inspector-General is to be congratulated on the fact that the Government of Bengal has acceded to his views. The actual transfer had not yet taken place at the time of the writing of his report, but it had been definitely agreed upon.

Respecting the statistics for admission for 1907, the number admitted and discharged, and the daily average number of prisoners, have decreased as compared with the previous year. The various statements in the report detail the number of convicted prisoners and their disposal during the year, the number of transportation convicts, the particulars of the religion, age, state of education, and previous occupation of the convicts, also the number of female convicts, and the nature and length of sentence of convicts admitted during the year amongst other particulars. A wise proceeding—namely, that of the removal daily or more than once a week of convicted prisoners from certain subsidiary jails to the district jails at headquarters, has been sanctioned. This, although throwing much additional work on the police department in providing escorts, has been of great use to this department in keeping down the numbers in the subsidiary jails, many of which, in spite of this more frequent removal of convicts, are still often found to be inadequate to accommodate the number of prisoners awaiting or under trial. Considerable sums of money have also been expended on the reconstruction and enlargement of the subsidiary jails in many districts, as many of the latter built 30 or 40 years ago were found of quite inadequate accommodation, in spite of the above system of immediately transferring convicted prisoners to the district jail at headquarters.

Colonel Buchanan last year urgently proposed an increase in the pay of all warders, a slight increase in the total number of warders in each jail, an improvement in the pay and status of the reserve head warders in central and first- and second-class district jails, a [illegible] warders with the local allowan[illegible] extension of privileges given to the police and Salt Department officers. These recommendations are now under the consideration of Government, and we trust, with Colonel

Buchanan, that a favourable reply may be given to his beneficent recommendations, for the warders, who are drawn from the same class as the police, keenly feel that they by no means receive equal treatment with them, and hence there is found to be a yearly increasing difficulty in recruiting a good class of men, together with an increased number of retirements and desertions. Colonel Buchanan rightly holds the most pressing jail reform to lie in the necessity of "not only making provision for increased pay, but also for extending to this hard-worked body of men similar privileges as regards pension and sick leave to those enjoyed by the police department." Surely a wiser recommendation was never made.

Several other points are noticed in this excellent report before we come to the facts concerning the sickness and mortality in the jails. For the year 1907 the daily average sick was 523·80, as against 576·44 in 1906, or a ratio per 1000 of 34·2, as contrasted with 36·5, the mortality-rate being respectively 17·5 and 23·7 per 1000. With respect to the chief diseases encountered, only five cases of cholera with three deaths occurred, against 21 and 15 respectively in 1906. Dysentery likewise showed a decrease, there having been 1984 admissions with 43 deaths, compared with 2738 and 83 in 1906. The death-rate per 1000 from this disease was 3·0, against 5·9 in the previous year. Bowel complaints always figure very largely in the sick-rate and mortality of prisoners in jails, but the rate for 1907 has marvellously decreased in the Bengal jails. Thus, in the five years 1875–79 the death-rate was 26 per 1000; this year it is far lower, only 3·2. The deaths this year have been about half the previous lowest record. This low death-rate has been almost universal in the Province.

Captain W. O. H. Forster, I.M.S., has instituted a special inquiry into the causation of jail dysentery, and has shown in his interim report that the dysentery is most commonly due to the bacillus of Shiga, amœbæ having been found very seldom in primary attacks, but more frequently in chronic cases. He shows it not to be spread by dust, water, food-supply, suctorial insects, or soil infection, nor does the infection, as far as could be traced, cling to wards or buildings. All the available evidence points to the spread by *case-to-case infection and by convalescents as bacilli carriers.* The extra-corporeal stages of dysentery were found to be extremely short. The sun's rays killed the bacillus in two hours, whilst bacilli died within three days in blankets stowed away in almirahs. The greatest incidence occurred one month after the rainfall curve; the minimum incidence corresponded with the dry hot months. Most of the cases occurred in recent arrivals from outside, or among convalescent gangs. Cases of dysentery due to Shiga's bacillus were found liable to assume a chronic or relapsing course, whilst convalescents were very dangerous as carriers and spreaders of the disease. As regards prophylaxis, therefore, we must exercise due attention to sanitation, the early admission and treatment of cases, and especially the detention in hospital till they become "absolutely well for at least a fortnight," together with the segregation of convalescents for at least a month after their discharge from hospital. Captain Forster also recommends the preliminary treatment of all new-comers during their necessary detention in the quarantine yards by salines and perchloride of mercury, inasmuch as a large proportion of jail cases occur amongst newly admitted prisoners. This preliminary treatment has proved very satisfactory in the Midnapore Jail. This hard-working officer has also introduced, and largely used, a method of vaccine-therapy which has been very successful, several most remarkable recoveries having been personally noted by the Inspector-General, who strongly advocates its use in other jails. Midnapore Jail is notorious for its unhealthiness, so that the efforts of Captain Forster are highly to be commended and reflect the greatest credit on this officer.

Lastly, a few words may be said on the subject of the state of malaria in Bengal. There were 4928 cases, with 16 deaths, in 1907, as compared with 4853, and 18 in 1906. The death-rate from these fevers is the lowest since 1880. Anti-malarial and anti-mosquito operations are now carried out in all the Bengal jails, and Colonel Buchanan believes that the majority of the cases arise from infection by newly arrived prisoners. Quinine as a prophylactic is issued in all the jails, in the majority of cases 15 grains on two successive days being given to all prisoners from July to the end of November. An important point is that although thousands of pounds of quinine have been used for ten years in large doses in the jails, there has not been a single case of blackwater fever, showing that quinine *alone* will not cause the disease. The report closes with an account of the movements of the various medical officers, and in it is mentioned the fact that Lieutenant-Colonel H. J. Dyson, whose premature death was so great a loss to the service, stuck to his jail practically till the last. It is always a pleasure to review any of Colonel Buchanan's work, which he so ungrudgingly gives to the Government he serves so well.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

The Port of Manchester.—Mr. W. F. Dearden in his current annual report enters into some detail as regards the important matter of food inspection, a subject which has acquired an added interest recently in consequence of the operations of the Public Health (Regulations as to Food) Act, 1907. A useful chart is furnished showing for each of the principal ports during 1907 the value of food imports compared with the value of total imports from abroad. The three chief ports as regards food imports are in order of magnitude London, Liverpool, and Hull, Manchester coming fourth as regards total imports but not as regards food imports alone. In connexion with the inspection of fresh meat it is of interest to note that one animal slaughtered shortly after landing on account of illness was found to be suffering from Texas fever. Mr. Dearden states that the inspections at the Foreign Animals Wharf are rendered difficult by virtue of the fact that slaughtering takes place at very irregular hours, notwithstanding the fact that the Manchester corporation has laid it down that no slaughtering shall be permitted on the premises in question after 6 P.M. on Saturday until 2 A.M. on Monday. Apparently the importers commence operations at any time convenient to themselves, whether on Saturday, Sunday, or other days Consequently the inspector is often absent during a portion of the time when slaughtering is taking place. This seems an eminently unsatisfactory state of affairs and not one which is likely to guarantee wholesome meat reaching the consumer. As regards grain, 694 tons were seized during 1908. Very little tinned fruit pulp was dealt with during the year as compared with 1907, but Mr. Dearden is unable to say whether this food may not be reaching Manchester *viâ* the railroad in consequence of the vigorous action taken against it in 1907. Considerable quantities of tinned meats were imported, but owing to the scarcity of American cattle the American exports consisted chiefly of meats which had been packed prior to 1906, but which had been examined by sample by the American authorities and found to be sterile. A very good feeling seems to obtain in the Port of Manchester between the food inspectors and the importers and a large number of tins are surrendered voluntarily. As we pointed out in THE LANCET of April 24th, a large number of pigs' tongues, packed in barrels and preserved in "patent pickle," was imported, and in consequence of decomposition having been set up in 49 of the barrels the contents of them were seized. The preserving fluid was found crowded with bacteria and the interiors of the tongues were decomposed. The preserving liquid consisted for the most part of sodium chloride and boric acid, there being in one instance examined 66·56 grains of boric acid per pound of preserving liquor. The ends of the barrels were bulging and when pierced a turbid liquid spurted therefrom. Moreover, the tongues were trimmed of every particle of lymphatic glands, and it is probable that the Local Government Board will be asked to prohibit the importation of tongues so treated. Tinned peas were also condemned in large quantities owing to the excessive amount of copper with which they were coloured Condensed milk is introduced by way of Manchester in substantial amounts, a considerable proportion which comes *viâ* Rouen being prepared from unskimmed milk, and the remainder which comes *viâ* Rotterdam being prepared from what is described as "machine skimmed milk." Only one consignment, 20 per cent. of which tins were found to be "blown," was condemned. In connexion with this important question of tinned milk Mr. Dearden states that all tins of sweetened condensed milk contain micro-organisms to a greater or less degree; the contents of a large number exhibit the *enteritidis* reaction and the presence of the bacillus coli communis has certainly been demonstrated.

Bath Urban District.— [illegible] 51,844, and in 1901 it [illegible] it was estimated at betw [illegible] Symons, the medical officer of health, furnishes in his report the figures relative to the Bath patients who were discharged from Winsley Sanatorium during the three years 1905 to 1907, and we are glad to see that the after-results have been kept in the manner recommended by Dr. H. T. Bulstrode in his report upon sanatoriums—that is to say, the figures for each year are kept separately and in such a fashion that the patients treated in any one year can be followed through successive years. In 1905 there were six Bath patients discharged from Winsley, and of these there were in January, 1908, two alive, one of whom was at full work. Of six discharged in 1906 there were four alive, three of whom were working in 1908. Under the Midwives Act of 1902 medical aid was called for in 82 cases, and Dr. Symons reports that the qualified midwives who are able to recognise danger call in medical aid in a large proportion of their cases, and he adds that the returns indicate that the infantile mortality in connexion with confinements attended by midwives was no greater than among those attended by medical men. There were 79 deaths among the infants of residents during 1908, and of these 20 took place during the first week and 35 during the first four weeks, the principal cause being premature birth. Dr. Symons thinks that the prevention of these deaths is a matter more for the Babies' Welcome Society than for the usual routine work, since it has been found a very difficult matter to rear immature infants.

Ilkley Urban District.—Dr. Augustus H Bampton has recommended that the sewer ventilators in the streets of this town should be covered over since he considers that surface ventilators can be dispensed with without danger. There are, he states, no surface ventilators in Bath, Blackpool, Bournemouth, Hastings, Eastbourne, and Scarborough, but he does not tells us which, if any, method of ventilation is adopted in the place of surface ventilators. It is quite true, as Dr. Bampton states, that Bristol has no ventilators whatever to the sewers, and it is impossible to demonstrate that the health of the city suffers in any particular thereby. Certainly the whole question of the ventilation of sewers is in need of elucidation, and it would be a useful course [illegible] the Local [illegible] with the w [illegible] se of interce [illegible] Burns last w [illegible] istics for Ilkley for 1908 do not suggest that the defective sewers have influenced the death-rate in any undue degree. The general death-rate for 1908 was 8·4 per 1000, the zymotic death-rate 0·28 per 1000, and the infantile mortality 45·7 per 1000 births.

Metropolitan Borough of Chelsea.—The Chelsea borough [illegible] lopt the Notification of Births [illegible] committee not being satisfied [illegible] workable. There is, however, a lady sanitary inspector in the borough who is doing good work, and in connexion with the subject of illegitimate births she reports that as the majority of the mothers of such children are obliged to go to work they have either to put their children out to nurse entirely or leave them in [illegible] g working hours. The usual [illegible] boarded out is from 5s. to 6s [illegible] minding," exclusive of food, the average charge is 4*d*. The result is that the majority of illegitimate infants are brought up by hand and bottle-fed. Of the total number of scarlet fever cases which were admitted from Chelsea into the [illegible] there were 18 who [illegible] suffering from scarlet [illegible] an average stay of 23 [illegible] stration of the hospitals that none of these children contracted the disease. Dr. Louis C. Parkes furnishes in his report a table showing the [illegible] scarlet fever, diphtheria, and [illegible] removed from Chelsea to th [illegible] hospitals since 1891, and in 1908 the several percentages amounted to 95, 91, and 71.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8995 births and 4462 deaths were registered during the week ending May 8th. The annual rate of mortality in these towns, which had been 17·1, 15·8, and 14·5 per 1000 in the three preceding weeks, further declined to 14·1 in the week under notice. During the first five weeks of the current quarter the death-rate has averaged 15·7 per 1000, the rate in London during the same period being 15·3. The lowest recorded annual death-rates in these towns last week were 6·5 in Hornsey, 6·9 in Reading, 7·2 in Willesden, and 8·0 in Rotherham; the rates in the other towns ranged upwards, however, to 20·6 in Stockport, 20·8 in St. Helens, 21·2 in Hanley, and 22·4 in Wolverhampton. In London the recorded death-rate during the week was equal to 14·1 per 1000. The 4462 deaths from all causes in the 76 towns last week showed a decline of 107 from the number in the previous week, and included 445 which were referred to the principal epidemic diseases, against 583, 517, and 462 in the three preceding weeks; of these 445 deaths, 198 resulted from measles, 109 from whooping-cough, 46 from diphtheria, 43 from scarlet fever, 42 from diarrhœa, and seven from "fever" (principally enteric), but not any from small-pox. The 445 deaths from these epidemic diseases in the week under notice were equal to an annual rate of 1·4 per 1000, against 1·9, 1·6, and 1·5 in the three preceding weeks. No death from any of these epidemic diseases was registered last week in Brighton, Norwich, Birkenhead, Northampton, or in nine other smaller towns; the annual death-rates therefrom ranged upwards, however, to 3·2 in Swansea, 3·6 in Warrington, 3·7 in Salford, 4·4 in St. Helens, 4·5 in Middlesbrough, and 5·2 in Wigan. The fatal cases of measles, which had declined from 438 to 225 in the seven preceding weeks, further fell last week to 198, but caused death-rates ranging upwards to 1·9 in Salford, 2·0 in Wolverhampton and in Stockton-on-Tees, 2·2 in St. Helens and in Warrington, and 4·6 in Wigan. The deaths from whooping-cough, which had been 131 and 113 in the two preceding weeks, further decreased to 109 in the week under notice, the highest death-rates from this disease being 1·1 in St. Helens, 1·9 in Tynemouth, 2·1 in Swansea, and 3·5 in Middlesbrough The fatal cases of diphtheria, which had been 47, 48, and 37 in the three preceding weeks, rose again last week to 46, of which 15 were registered in London and its suburban districts, four in Manchester, and three in Portsmouth. The 43 deaths from scarlet fever exceeded the numbers in other recent weeks, and included 14 in London and its suburban districts, four in Liverpool, four in Manchester, and three in Salford. The 42 fatal cases of diarrhœa also showed a slight excess over recent weekly numbers, while the deaths from "fever," which had been 13 in each of the two preceding weeks, declined to seven in the week under notice, and were fewer than the number in any previous week of the year. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had decreased from 2373 to 2181 in the nine preceding weeks, had further fallen to 2175 at the end of last week; 309 new cases were admitted during the week, against 244, 265, and 305 in the three preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 341, 294, and 232 in the three preceding weeks, further declined to 212 in the week under notice, and were 58 below the corrected average number in the corresponding week of the five years 1904-08. The deaths in London referred directly to influenza, which had been 45 and 32 in the two preceding weeks, fell last week to 10, but were equal to the corrected average number. The causes of 40, or 0·9 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. The causes of all the deaths registered during the week were duly certified in London, Manchester, Leeds, Bristol, West Ham, and in 50 other smaller towns; the 40 uncertified causes of death included nine in Liverpool, four in Birmingham, three in Gateshead, and two each in Sheffield, Leicester, Bolton, Sunderland, Preston, and Rochdale.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 18·4, 17·4, and 16·9 per 1000 in the three preceding weeks, further declined to 16·2 in the week ending May 8th. During the first five weeks of the current quarter the death-rate in these towns averaged 17·3 per 1000, and exceeded by 1·6 per 1000 the mean rate during the same period in the 76 large English towns. Among the eight Scotch towns the death-rates during the week under notice ranged from 12·5 in Paisley and 13·0 in Greenock, to 19·4 in Dundee and 20·6 in Perth. The 577 deaths from all causes registered in the eight towns last week showed a further decline of 28 from the numbers in recent weeks, and included 78 which were referred to the principal epidemic diseases, against 86 and 93 in the two preceding weeks; of these 78 deaths, 41 resulted from whooping-cough, 17 from diarrhœa, eight from measles, eight from scarlet fever, two from diphtheria, and two from cerebro-spinal meningitis, but not any from small-pox or from enteric fever. These 78 deaths were equal to an annual rate of 2·2 per 1000, or 0·8 more than the mean rate last week from the principal epidemic diseases in the 76 English towns. The fatal cases of whooping-cough in the eight Scotch towns, which had been 46 and 55 in the two preceding weeks, declined again to 41 in the week under notice, and included 26 in Glasgow, eight in Edinburgh, and four in Aberdeen. The deaths from diarrhœa, which had risen from 13 to 21 in the four preceding weeks, declined again last week to 17, of which eight occurred in Glasgow, three in Aberdeen, and two each in Edinburgh and Dundee. The fatal cases of measles, which had been six and two in the two preceding weeks, rose again to eight last week, and included five in Paisley and two in Aberdeen. The eight deaths from scarlet fever exceeded the numbers in other recent weeks, and included six in Glasgow, where the two fatal cases of cerebro-spinal meningitis also were registered. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 135, 118, and 99 in the three preceding weeks, further fell to 88 in the week under notice, and were 31 fewer than the number returned in the corresponding week of last year. The causes of 17, or 3 per cent., of the deaths registered in the eight towns last week were not certified; in the 76 English towns the proportion of uncertified causes of death in the same week did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been 27·7, 24·5, and 22·0 per 1000 in the three preceding weeks, further fell to 18·8 in the week ending May 8th. During the first five weeks of the current quarter the death-rate averaged 23·7 per 1000, whereas the mean rate during the same period did not exceed 15·3 in London and 17·1 in Edinburgh. The 144 deaths of Dublin residents from all causes during the week under notice showed a decline of 24 from the number in the preceding week, and included eight which were referred to the principal epidemic diseases, against 21, 12, and 16 in the three preceding weeks. These eight deaths were equal to an annual rate of 1·0 per 1000, the death-rate from the principal epidemic diseases in the same week being equal to 1·6 both in London and in Edinburgh. Of the eight deaths from these epidemic diseases in Dublin last week, four resulted from whooping-cough, two from measles, and two from diarrhœa, but not any from small-pox, scarlet fever, diphtheria, or "fever." The 144 deaths registered during the week included 26 of infants under one year of age and 34 of persons aged upwards of 60 years, the corresponding numbers in the previous week having been 31 and 53 respectively. Six inquest cases and three deaths from violence were registered last week, and 49, or 34 per cent., of the deaths occurred in public institutions. The causes of three, or 0·2 per cent., of the deaths in Dublin during the week were not certified either by a registered medical practitioner or by a coroner; in London the causes of all the 1304 registered deaths were certified, while in Edinburgh the proportion of uncertified deaths was 4·5 per cent.

THE SERVICES.

THE NEW DIRECTOR-GENERAL OF THE INDIAN MEDICAL SERVICE.

Lieutenant-Colonel Charles Pardey Lukis, principal of the Medical College, Calcutta, has been selected to succeed Sir Gerald Bomford, Director-General, Indian Medical Service, who is proceeding home preparatory to retirement. Colonel Lukis entered the service in 1880, and was with the field forces engaged in Wazirstan in 1881 and Zhob Valley in 1884. He entered the Civil Department in 1886 and was stationed in the United Provinces until 1899, when he became Civil Surgeon of Simla. He accompanied Lord Curzon to the Persian Gulf in 1903, and became honorary surgeon to the Viceroy in 1905.

ROYAL NAVY MEDICAL SERVICE.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet-Surgeon John Jenkins has been placed on the retired list at his own request (dated May 7th, 1909).

ROYAL ARMY MEDICAL CORPS.

The undermentioned Captains to be Majors (dated April 28th, 1909):—John McD. McCarthy, John Poe, Hamilton G. F. Stallard, and Ernest Brodribb.

TERRITORIAL FORCE.

Infantry.

10th (Scottish) Battalion, The King's (Liverpool Regiment): Surgeon-Lieutenant David M. Alexander resigns his commission (dated March 11th, 1909).

Royal Army Medical Corps.

London Mounted Brigade Field Ambulance: The appointment of Henry Robinson to a Lieutenancy bears date April 1st, 1908, and not March 5th, 1909, as stated in the *London Gazette* of March 26th, 1909.

3rd West Lancashire Field Ambulance: Richard Coffey to be Lieutenant (dated Jan. 11th, 1909).

5th London Field Ambulance: Sidney Francis St. Jermain Steadman to be Lieutenant (dated Feb. 19th, 1909).

2nd Welsh Field Ambulance: Major Alfred William Sheen to be Lieutenant-Colonel (dated Feb. 1st, 1909).

1st London (City of London) General Hospital: Major Wilmot Parker Herringham is seconded for service with the London University Contingent, Senior Division. Officers Training Corps (dated Feb. 20th, 1909).

2nd Western General Hospital: The following announcement is substituted for that relating to Major W. Thorburn which appeared in the *London Gazette* of April 27th, 1909:—Major William Thorburn to be Lieutenant-Colonel and to be an officer whose services will be available on mobilisation (dated Feb. 28th, 1909).

Sanitary Service.—Lieutenant-Colonel John A. Jones.

For Attachment to Units other than Medical Units.—Thomas Hanson Crossfield Derham to be Lieutenant (dated Jan. 1st, 1909). Thomas Brown to be Lieutenant (dated (April 3rd, 1909).

Attached to Units other than Medical Units.—Lieutenant-Colonel C. Downing, Major Frederick V. Adams, Major Ernest W. Barnes, Major Harry T. Challis, and Major Alfred Rees.

The undermentioned officers are granted the honorary rank of Surgeon-Colonel (dated March 31st, 1908):—

Royal Field Artillery.

2nd Northumbrian Brigade: Surgeon-Lieutenant-Colonel Thomas McC. Foley.

Infantry.

6th Battalion, The Prince of Wales's (North Staffordshire Regiment): Surgeon-Lieutenant-Colonel J. Fausset.

The undermentioned officer is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated March 31st, 1908):—4th Battalion, The Welsh Regiment: Surgeon-Major Evan Evans.

The undermentioned officer is granted the honorary rank of Surgeon-Major (dated March 31st, 1908):—4th Battalion, The King's Own (Royal Lancaster Regiment): Surgeon-Captain Richard J. Morris.

THE UNIVERSITY OF LONDON OFFICERS TRAINING CORPS.

The first general parade of this contingent was held at the

University of London, South Kensington, on May 12th (Presentation Day), when addresses were delivered by the Vice-Chancellor, Sir William Collins, M.P., and Lieutenant-General Sir W. H. Mackinnon, Director-General of the Territorial Force, representing the War Office.

Correspondence.

"Audi alteram partem."

THE MEDICAL TREATMENT OF LONDON SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—As a physician to one of our general hospitals and as an assistant physician to a special hospital in London, I write to thank you for being so public-spirited as to publish an annotation in the current number of THE LANCET on the Medical Treatment of London School Children. You say, "the idea of using the honorary services of the medical staffs in return for a grant to hospital funds seems to us monstrous." I agree with every word of your protest and am sure that it is high time that the public should be completely informed of the burden which already rests on the shoulders of the honorary medical staffs of our London hospitals. Were the facts known to the public as thoroughly as they are to you, I am quite sure this further exploitation proposed by the London County Council would never have been mooted. Your suggestion that there should be a meeting of the honorary staffs of our hospitals is excellent, but I am hopeful that your strongly worded protest will render such a step unnecessary.

I am, Sir, yours truly,
H. BATTY SHAW, M.D. Lond., F.R.C.P. Lond.
Devonshire-street, W., May 7th, 1909.

To the Editor of THE LANCET.

SIR,—I am glad to see that you are calling attention to the serious questions raised by the new Education Act. So many interests are involved that it is to be expected that no hurried decisions will be taken. I doubt if any hospital authority would act in such a matter without consulting the hospital staff, and, speaking for myself alone, I should be glad if it were found possible to call some meeting at which the staff of each London hospital should be represented.

I am, Sir, yours faithfully,
May 7th, 1909. W. P. HERRINGHAM.

To the Editor of THE LANCET.

SIR,—*A propos* of the last paragraph in your article on the above, I feel myself at liberty to state that the staff of the London Hospital discussed the matter at its last meeting and unanimously passed a resolution to the effect that it did not approve of the principle of the hospital being expected to treat such cases in return for a subsidy of public money received from the London County Council, but coupled with a rider that it was willing to meet the lay committee of the hospital to consult as to the best means by which the problem of treating these children might be met. This statement may help to set Mr. Beckett-Overy's mind at rest as to the idea that the staffs of the London hospitals are in ignorance of what is going on, but I fear it does not go very far in deciding what is to be done.

Within the limits of a letter it is impossible to discuss the problem as a whole, but one may just glance at the fundamental facts, the most obtrusive and striking of which is that if the proposal of the London County Council were attempted the special departments (ear, throat, nose, skin) of the London hospitals and even the ordinary out-patient departments would have to be enlarged to twice or even three times their present capacity to cope with the work; this simple mathematical fact alone seems to render the proposal absolutely impossible in practice. Another fact is that these "defective" children are at present being compelled to [illegible] imitation must lead to their increase.

The problem seems to me to be how to treat these children without destroying parental responsibility altogether, and with the condition of seeing that the medical profession is fairly remunerated for its services; the latter can be dealt with easily enough by several schemes, the former is doomed to oblivion, for no one seems to have sufficient moral courage nowadays even to attempt to suggest that parents have any responsibilities.

I am, Sir, yours faithfully,
Harley-street, W., May 12th, 1909. FRED. J. SMITH.

X RAYS AND RINGWORM.

To the Editor of THE LANCET.

SIR,—There appeared in the *Times* a few weeks back a letter from an Edinburgh physician suggesting that the x rays *might* have a deleterious effect on the brain cells. His remarks were directed against "Sabouraud's" method of x ray treatment for ringworm of the scalp. A "scare" has been produced chiefly by the cheaper lay press, and parents are becoming convinced that the x rays will cause their infected children to become "idiots." One might equally argue that because the profession is prescribing an occasional dose of opium our children will eventually become "morphomaniacs." The suggestion is a most pernicious one. At St. John's Hospital for Skin Diseases we have had several parents object to the x rays on account of the aforesaid letter.

Practically at all hospitals, large and small, an expert is attached who from experience knows exactly the requisite dose to produce epilation. The essence of Sabouraud's method lies in using a *low* tube, the rays of which are well known to be readily stopped by bone, even of the thickness of a child's skull. The following is a useful demonstration. I exposed the left side of a child's head, aged four years, to a low tube, the primary spark gap was three inches, the milliampèremeter registered 1, and by Benoist radiometer No. 5. A pastille was changed to the full tint in 11 minutes. A piece of lead half an inch thick and of the size of a farthing was placed on the centre of the exposed area. Examination with the screen showed the whole head opaque; the lead could not be differentiated. A Lumière plate was placed under the right side, and after the above full dose the plate was slightly fogged but no image of the lead was apparent. By the fourteenth day the left side of the head was completely bald, so that although the scalp received the maximum dose requisite to make the hair fall perfectly the brain cells, protected by the bone, must have received but little irradiation. The hair under the lead was unaffected. I am of opinion that no scalp should be treated by x rays unless the fontanelles are completely closed. The expert use of x rays for therapeutic purposes, at any rate in the treatment of ringworm, is of great value; and it is rather late in the day to suggest alarmist views, which have not a particle of evidence to support them.

I am, Sir, yours faithfully,
CHISHOLM WILLIAMS.
New Cavendish-street, W., May 8th, 1909.

EPSOM SALTS AS A POISON, AND ITS USES IN THE TREATMENT OF WARTS.

To the Editor of THE LANCET.

SIR,—I read with much interest the article by Dr. Charles Fraser on the poisonous effects of Epsom salts in your issue of April 24th, p. 1174, not only on account of the great rarity of such cases as he records, but because, as medical officer to a large Poor-law school with 600 children whose ages range from five to 16 years, his remarks were of considerable interest to me. In this school Epsom salts are largely used, as probably in most schools of this kind, and given in large doses up to half an ounce. Although I have never seen any child suffer from alarming symptoms after a dose of these salts, still I have from time to time known children complain of pain, feel sick and cold, with a pinched look about the face. One has never attached any importance to this owing to the fact that Epsom salts have always been regarded as a therapeutic agent free from danger, but after [illegible] asks one's self. Were these symptoms of [illegible] the dose taken in each of [illegible] somewhat concentrated [illegible] amongst domestic saline purgative in chronic constipation, and forms one of the pancreas incision was the normal proceeding, the drawback, however, being that a fistula sometimes was left. He showed a case where a big growth was present behind and connected with the stomach. It was a large cyst of the pancreas, but it was easily shelled out. The wound was plugged and healed within six weeks without leaving a fistula. On examination of the wall of the cyst numerous white nodules of the size of a pea were found, which proved to be sarcomatous. A year later pain began to be complained of, and then a small growth appeared in the scar and recurrence was obvious.

Operations on the Brain.

Professor VON BRAMANN of Halle described an Operation for Hydrocephalus. He trephined half a centimetre behind the coronal suture and brought the dura mater into view. He then introduced a short cannula through the commissure into the ventricle, the depth before this was reached being in children about three centimetres and in adult persons about from six to eight centimetres. When the fluid had run out the aperture in the commissure was somewhat dilated and the wound was closed. Professor von Bramann performed this operation in 22 cases, of which 13 were cases of growth, with hydrocephalus, eight were cases of genuine hydrocephalus, and one was a case of epilepsy. The effect of the operation was that the fontanelle sank, the patient's mental state improved, and the contractures and the amaurosis became better. In one case it was ascertained by post-mortem examination that the opening was still patent after seven months.

Mobilisation of Joints.

Professor KLAPP of Berlin drew the attention of the Congress to the fact that tuberculosis of the hip-joint might, in certain circumstances, get well without any impairment of the function of the joint. In cases of gonorrhœal arthritis Bier's passive congestion gave excellent results, so that incision and drainage were often unnecessary. The results were best in the acute phlegmonous form, but even in more chronic cases success might eventually be obtained provided that the technical directions were observed. As to operations for restoring mobility to ankylosed joints, the best results were obtained in the elbow-joint. It was the aim of the operation to free the existing adhesions and to avoid the formation of fresh ones. For this purpose either cartilage, or muscles, or fascia, or tendons must be interposed between the epiphyses. Professor Klapp had recently devised a new method of mobilising joints which had become ankylosed after fractures. He removed the callus but spared the surface of the joint which was then united by nails with the diaphysis from which a small piece was previously removed by the saw. Sometimes the extirpation of the shrivelled capsule was advisable.

Professor PAYR said that the condition of the capsule was the most essential point in the mobilisation of joints. Forcible breaking down of adhesions produced new cicatrisations within the capsule owing to which the joint became still more ankylosed than before. He recommended in such cases the removal of the capsule, but the ligaments should be left. According to his experiments in animals the capsule might regenerate.

While speaking on the subject of fractures, Dr. THÖLE of Hanover said that he had seen in a patient who had fallen from a horse a separation between the base of the cranium and both upper jaws, so that the face could be moved in a sagittal direction.

Professor KAUSCH of Berlin mentioned that three years ago he had implanted a piece of bone eight centimetres long, freed from periosteum, at the place of the knee-joint after resection for malignant growth. The femur was later amputated for recurrence, and on examination it was found that the periosteum of the femur and of the tibia had grown over the implanted piece. The latter had become absorbed, but new bone was formed from the periosteum and the adjoining bones. The union between the new bone which had taken the place of the implanted piece and the old bone was so close that it was impossible to differentiate the tissues. Professor Kausch added that he had in four instances implanted sterilised bone from a dead body and other material in two instances, but that in no case was a good result obtained.

Dr. WILLEMS of Gent said that in hæmarthrosis of the knee-joint he had allowed the patients to move the joint and to walk immediately after the aspiration. By early movements atrophy of the joint was avoided. He had applied this method in 12 cases of hæmarthrosis and eight cases of acute hydrarthrosis. The results were very good, no complication happened, and the duration of treatment was considerably shortened. The patients were able to begin work on an average after eight days, the minimum being six, the maximum 16 days.

Medical Experiences at the Messina Disaster.

Dr. COLMERS of Heidelberg, the chief medical officer of the German expedition to Messina, gave a report of his experiences concerning the injuries produced by the earthquake. He said that the injuries were nearly all very severe, because, the [illegible] night-time, only a very few had an [illegible] from the falling houses. The injured were nearly all found covered with timber, stones, and rubbish within the ruins, and as they had been lying there for several days some of them showed pressure sores and cellulitis leading to gangrene of the limbs. Dr. Colmers stated that dressing with Peruvian balsam gave good results. The compression of nerves by the ruins led in numerous instances to paresis. As to the varieties of fracture observed, fractures of the cranium were relatively rare, but fractures of the vertebral column, the pelvis, and the limbs were very frequent. It was remarkable that after slight injuries of the skull an alopecia sometimes developed.

THE
RECENT FIGHTING IN CONSTANTINOPLE.

(FROM THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

SATURDAY, April 11/24th, 1909, the date of the victory of the Salonica "invaders" over the mutinied garrison of Constantinople, will be as memorable in the history of this city as July 11/24th, 1908, when the now deposed Sultan was reluctantly compelled to grant his subjects a Constitution and Parliamentary government.

Of the events which led up to the recent battle in the streets of the Turkish capital this is not the place to speak at any great length. Briefly the facts were as follows. On the preceding Tuesday week (April 13th) a large number of the troops and marines of the Constantinople garrison mutinied, imprisoned or bound their officers, and flocked to the historial open space close by the mosque of St. Sofia and the Chamber of Deputies. There they were joined by many *hodjas* and *mollahs*, and cried loudly for the Sheriat (the embodiment of the religious law of El Islam), for a change of Ministry, and for the downfall of the Committee of Union and Progress. For a whole day the business of the city was at a standstill; some fighting took place near the War Office between the "loyal" troops and the mutineers; the Minister of Justice and the deputy for Latakia were killed (the latter in mistake for the editor of one of the Committee's organs, the *Tannin*); several other persons were killed or wounded; and the offices of the paper just named, of another organ of the Committee (the *Shourai-Ummet*), and of the Committee itself were sacked by the mob. For the moment the religious reactionaries and mutinied soldiers seemed to have gained the day. Before evening the Ministry had been changed, more or less in accordance with their demands, the leaders of the Committee party were in hiding or in flight, the (late) Sultan had promised complete respect for the Sheriat and an amnesty for the mutineers, and the latter, towards 10 o'clock at night, began to flock back to their barracks in different parts of the town in a state of jubilation. During a great part of that night and the whole of the following day they showed their joy by discharging their rifles into the air, indiscriminately and continuously. The noise thus made was taken at first for that of serious fighting and created, naturally, considerable alarm. Fortunately, however, it was soon learnt that the shots were mere "feux de joie," and the alarm abated. Such firing, however, was by no means free from danger, and within 24 hours a large number of persons had been killed or wounded by stray bullet shots. The exact numbers are not known; one estimate put them at over 500 wounded and about a score killed; but it is thought that these figures are below, rather than above, the truth. The most dangerous place to be in during these wild demonstrations was an upper window, and it was really safer to be in the street and among the demonstrators themselves, who at least made some effort to fire perpendicularly in the air.

After this outbreak there followed a period of ten days of suspense and expectation. During that time the supporters of the Committee rallied. An army was sent from Salonica to invade the capital, restore order, and punish the mutinied troops. The incidents of the Tuesday (April 13th) had undoubtedly been of complex origin. They were the expression, in part, of a widely-felt dissatisfaction at the dictatorial attitude of the Com[illegible] in the Chamber; in part, of [illegible] among the general Moslem [illegible] ard the attempt to introduce reforms on Western lines into this country as contrary to their religion; but in great part they were also caused by the agents of reaction and supporters of the old Hamidian *régime*, and there seems to be little doubt that the gold of Yildiz played an important part in bringing about these demonstrations.

Between April 13th and 23rd the Salonica forces slowly gathered and concentrated at a short distance from the capital. On the afternoon of the 23rd they had reached the suburbs. At dawn on the 24th the invading army entered the town. The Pera division, consisting of (according to a rough reckoning) some 6000 infantry, a certain (not large) number of cavalry, some score or more of field guns, and mitrailleuses mounted on armoured automobiles, marched into the city by the Shishli-Pancaldi-Taxim-Pera road, and thus passed under the windows of my house, situated in the first-named suburb. It was a striking spectacle, this silent invasion of a great capital, in the early hours of a warm spring morning, by men evidently intent on business. It was at 4.45 A.M. that they entered the suburbs; at 5.25 A.M. the engagement began, and from then until 11 A.M. the firing of rifles, cannon, and machine guns continued uninterruptedly. At 7.30 I made my way to the large Military Academy at Pancaldi, some half-mile further in the town and the centre of much of the fighting, and offered my services to help attend the wounded, by that time beginning to be numerous. Some half-dozen colleagues were already there. Several of the cadets' dormitories were turned into hospital wards. The tramcars had been seized by the "invaders" and were converted into ambulance wagons, the stretchers being placed, longitudinally, across the backs of the seats of the open cars; later the same cars served to carry the dead. There was at the Academy a sufficient supply of dressings, antiseptics, and appliances for first aid. By degrees the wounded were transferred to the hospitals. Between 60 and 70 had passed through our hands before noon.

The majority of injuries were Mauser rifle wounds. In most instances the bullet had traversed the body or limb; in fact, in not a single case that came under my immediate care did the bullet remain in the body. I have since seen, however, in the hospitals cases where the bullet remained in the tissues or in one of the great cavities, and has had to be removed by operation or left in, according to circumstances. In the case of penetrating wounds, the wound of entrance was usually distinctly smaller than that of exit; but this was not invariably the case, and in more than one instance the difference in size between the two wounds was trifling; round neither was there, as a rule, much damage to the soft parts, and such wounds have since healed rapidly and well, even when the shot had passed through one of the cavities of the body. In one case the [illegible] the left buttock, had [illegible] muscles, and escaped [illegible] the man had been in a stooping, almost recumbent position at the moment of being struck. Several other patients were wounded in the back in the following circumstances. At the height of the engagement the mutineers raised the white flag and the invaders advanced over the open ground to receive their surrender, but on approaching the barracks a murderous fire was opened on them and they were compelled to retire hurriedly, leaving about a score of dead on the ground. It was rare in any of the cases of rifle wound to see much shattering of the bones or soft parts. In a few, however, compound fractures of the long bones of the arm or leg have since necessitated amputation. In one instance the patient had a compound fracture of the right radius and no less than six other bullet wounds in different parts of the body; he is now doing fairly well and it is hoped that he may recover. Cannon-shot injuries were, of course, much more extensive and serious; but such injuries were rarer among the wounded than among the dead. In bullet wounds hæmorrhage was usually insignificant in amount. Shock was well marked in many cases, and more or less present in all. Many of the men were already in a tired condition before the engagement began. It appears to be established now beyond doubt that the arrival of the army in the city was greatly hastened at the last moment, as otherwise very serious disorders (some say a general massacre) in Stamboul were inevitable. Consequently many men of the invading army had marched all night, from Makrikeui, a distance of some 15 miles or so, and it is stated that many of them had had little in the way of food for several hours before the engagement began. This is to some extent confirmed by the fact that a large number of the men already showed signs of exhaustion as they marched into town in the early dawn; and later, at the height of the engagement at the Military Academy, I saw many of them, when not employed in serving the guns, lie down and appear to fall asleep in the shade of the ammunition wagons, not 30 yards from where the cannon were being fired. In one instance a soldier of the invading army was brought into the Academy, uninjured in any way, but in a state of acute hysteria brought on by the nerve strain, the heat, and the deafening noise of the battle which was being actively carried on under our windows. It must be rare to see a case of this nature in the male subject, except in war-time. From the rapid examination that was alone possible in the circumstances I noted that the pupils were rather but not excessively dilated and equal; the pulse was rapid but fairly good; the patient was unconscious of his surroundings but sensitive to pain, and the reflexes were not abolished; he was crying out much as does a patient in the delirium of high fever. An hour later when I re-inquired as to his condition, I found his bed occupied by another, and [illegible] their [illegible] or patient. The noise of the engagement, the scene of which may be said to have extended from the Military Academy itself (where it had first begun) for some three-quarters of a mile in a southerly direction, along the main tramway route leading to Taxim and Pera proper, was at times literally deafening. There was much rifle-firing in the near neighbourhood of the building; machine guns were being worked some distance away, but one battery of field guns was drawn up under our windows in the parade ground of the Academy, along the southern front of the building. From there they [illegible] rate, did not use them in reply, it was possible to watch, with a fair degree of safety, from our windows the effect of the shot. It was in truth an absorbing spectacle. The shot used appears to have been both shrapnel and heavy shot; the former, at that range, exploded, not in the air, but at the moment of striking the building; the damage done was less than might have been anticipated, and the building, of stout stonework, resisted to the end, the walls still standing, though jagged and torn with holes in a hundred different places. The firing ceased at 11 A.M.; but the Tash-Kishla men still held out. Later in the afternoon, towards 5 P.M. (when I was once more at the Academy), the artillery, which had been temporarily withdrawn, took up again the position they had occupied in the morning, and for a time a fresh bombardment seemed inevitable, but shortly after the mutineers surrendered.

By that time the large majority of the wounded had been transferred to the Hamidieh and other hospitals in the neighbourhood. Between 60 and 70 in all had received first treatment in the Academy. The hospitals that received most of the wounded on the Pera side of the Golden Horn were the Hamidieh, the Gumush-Su, the Armenian Hospital of Sourp-Agop, and the French Hospital in Pera. The wounded in Stamboul were treated in hospitals situated on that side of the Golden Horn. It is extremely difficult to obtain definite figures for the total number of casualties, but the following estimate of a staff officer is perhaps as near the truth as it is possible to get at present; the figures are, at any rate, certainly not above the truth. On the side of the invading army: at Pera, 53 dead and 65 wounded; and at Stamboul, 44 killed and 95 wounded. On the side of the mutineers: at Pera, 240 killed and 475 wounded; and at Stamboul, 57 killed and 110 wounded. This would make a total of 97 killed and 160 wounded on the side of the invaders, and 297 killed and 585 wounded on that of the mutineers, or a grand total of 394 killed and 745 wounded. That these figures are not above, but below (and in the case of the wounded very considerably below) the truth is shown by the fact that 67 wounded, all belonging to the invading army, were admitted to the Hamidieh Hospital alone.

This excellent hospital, situated at Shishli (not a hundred yards from my house), was founded and maintained by the late Sultan, whose now unhonoured name it still bears. A description of it appeared a year or two ago in the pages of The Lancet. It is primarily intended for children. The sudden admission of this large number of wounded men naturally strained its resources, but the call was well met, the army furnishing an abundant supply of surgeons, so that no outside help was needed. The ordinary nursing staff was, however, overtaxed, and the voluntary services of several amateur lady nurses have since been gladly accepted. The hospital itself did not escape injury. At about 6 A.M. a shell, apparently coming from the mutineers at Taxim, struck one of the pavilions, crashed through a window, and shattered the plaster and stone work of an inner wall. Four women attendants were seated in this room, which is not more than some 15 by 10 feet in dimensions, and the shell in its passage blew to pieces the head of one of them without injuring any of the other three. The shattered window and shutters, the battered stone work, and the brain- and blood-bespattered ceiling and walls are still grim to look at. Many other shells exploded in the near neighbourhood, while others buried themselves harmlessly in the earth in the fields and valleys that lie between Shishli and Yildiz.

The city is still, technically speaking, in a "state of siege," but the daily life of the multitude goes on much the same as before, and the outward signs of a military occupation and rule are daily becoming less. A word of unfeigned admiration must be added for the behaviour of the invading army from the time they entered the city. For the past fortnight the city has been entirely in their hands, yet not a single instance has been heard of in which they abused their power, and no citizen has had to complain of robbery, insult, or injury of any kind. In all justice, however, the same or a greater meed of admiration must be given to their late enemy, the "mutineers," who for 11 days had the city no less absolutely at their mercy and behaved equally well to civilians; and this in spite of the fact that they were without officers, were, from a military point of view, entirely out of hand, and (if all reports be true) had their pockets liberally lined with gold from Yildiz.

Constantinople, May 6th.

LIVERPOOL.

(From our own Correspondent.)

A Mace for the University of Liverpool: Dr. Richard Caton's Commemorative Gift.

Shortly before completing his term of office as Lord Mayor of Liverpool, Dr. Richard Caton announced his intention of presenting a mace to the University for use on occasions of public ceremony. The mace has now been received from the makers (Messrs. Elkington and Co.) and was used for the first time at the installation of the new Chancellor on May 8th. It is composed entirely of silver, the head and crown being gilded and enamelled, the stem is oxidised, while the bosses and foot are polished and lacquered. The crown, with orb and cross, and the Royal arms beneath the crown, are symbols of the Royal authority delegated to the University. The head of the mace beneath the crown is divided into four fields or spaces by the following reliefs of Greek divinities: (1) Athene, symbolising the faculties of arts and science; (2) Poseidon, suggesting maritime engineering and the relation of the University to sea-borne commerce; (3) Themis, referring to the faculty of law; and (4) Asklepios, referring to the faculty of medicine. The four fields or spaces thus separated contain enamels of the King's initials and the shields of England, Scotland, Ireland, and Wales; the arms and supporters of the county palatine of Lancaster; the arms and supporters of the city of Liverpool; and the arms of the University of Liverpool. On the head of the mace is a Latin inscription stating that the mace is given to the University of Liverpool by the Lord Mayor as a testimony of the love of the citizens for humane and scientific studies. At the base of the head of the mace is a fillet composed of corn sheaves, suggestive of the Mersey and the sea. The upper part of the mace is connected with the stem by four heads of Hermes, the transmitter of the teachings of the gods, and the patron of the sports of the gymnasium. The spiral band which is seen on the stem of the mace is engraved with the rose of Lancaster, and the bosses with the "planta genesta," the cognisance of King John, the founder of Liverpool. The base contains an inlet coin of King Edward VII., with the date 1908. The mace was presented to the council of the University at its meeting last week.

Installation of the New Chancellor of the University of Liverpool: Distinguished Recipients of Honorary Degrees.

Saturday, May 8th, was an important day in connexion with the University of Liverpool. Two interesting functions took place then in St. George's Hall. The first was the installation of the Earl of Derby as Chancellor of the University in succession to his father, the late Earl of Derby; and the second was the conferment of honorary degrees upon Mr. Arthur Balfour, Lord Roberts, Lord Crewe, Lord Charles Beresford, Mr. Augustine Birrell, Sir Donald MacAlister, Sir John Brunner, Signor Guglielmo Marconi, Dr. Richard Caton, Mr. Robert Gladstone, Professor Paul Vinogradoff, Mr. Francis Darwin, Professor Edward Meyer, Dr. John Lancelot Todd, and the Hon. Charles Algernon Parsons. Academic and official dress were generally worn, and the scene in the hall was strikingly brilliant. The Chancellor and the distinguished honorary graduates were afterwards entertained at luncheon by the Lord Mayor at the town hall, when interesting speeches were delivered by Mr. Balfour, Lord Crewe, Lord Charles Beresford, Mr. Birrell, and others.

May 11th.

WALES.

(From our own Correspondents.)

Workhouse Medical Officers.

The Merthyr board of guardians has decided to appoint a resident medical officer for the union workhouse at a salary of £200 per annum with yearly increases of £20 up to £300. The manner in which the sick inmates of the Merthyr workhouse have been looked after has frequently received commendation at the hands of the Poor-law inspectors of the Local Government Board.—The salary of Dr. R. J. Lloyd Edwards, the medical officer of the Swansea workhouse, has been increased from £500 to £550 per annum. Dr. Edwards is not a resident officer, but holds the positions of district medical officer and public vaccinator.

A Second Hospital for the Rhondda Valleys.

Although the population of the Rhondda Valleys is well over 120,000 persons, there is only one cottage hospital in the whole district. It is situated at Porth at the junction of the two valleys and is therefore a considerable distance from the upper parts of both valleys. The Porth Hospital was founded in 1895 mainly through the efforts of the late Mr. Henry Naunton Davies, M.R.C.S., who was the first to receive the gold medal for distinguished merit, founded in 1877 by the British Medical Association. Quite appropriately the hospital is situated only a few hundred yards above the Tynewydd Colliery, where in April, 1877, a boy and four men were imprisoned without light or food for ten days, and in connexion with whose rescue Mr. Davies and other surgeons displayed conspicuous courage. During many years past attempts have been made, hitherto unsuccessfully, to establish hospitals in other parts of the valleys. There now appears to be some likelihood of a project for the erection of an institution near Pentre meeting with a better fate than others have done. Pentre and Ystrad are two populous districts some five miles from Porth, and a suitable site in either would serve the needs of a very large area A committee, consisting of two workmen and one official from each local colliery, has been formed to choose a site and to consider the best means of carrying out the scheme

Caerphilly Isolation Hospital

The colliery districts in South Wales are at last being well supplied with isolation hospitals Almost the first of any pretensions was built by the Rhondda urban district council in 1899, and very shortly afterwards the neighbouring district of Pontypridd was provided with an excellent institution within a few miles of the town The Aberdare urban district council has decided to erect suitable buildings as soon as plans and other preliminaries are completed, and on April 27th last a well designed hospital was opened at Caerphilly, an urban district with a population of some 25,000 persons situated on the eastern border of Glamorganshire The site, which is about two and a half acres in extent, is on the side of the mountain nearly a mile from the town There are three ward pavilions, with accommodation respectively for ten, eight, and four patients They are designed somewhat on the Local Government Board plan, with a nurses' duty room dividing two wards and sanitary annexes at each end In the two largest pavilions there is a convalescent room on the second storey in the middle of the block The administrative block has 11 bedrooms, so that it would not need enlargement in the event of more pavilions being erected The remaining buildings include a laundry, stables, mortuary, and discharging rooms The cost of the undertaking was approximately £10,000, or about £450 per bed

Deficient Water supplies in Carmarthenshire Schools

In the report which was presented to the Carmarthenshire education committee by Mr L M Bowen Jones upon the 23 schools in which he carried out the medical inspection of the school children in 1908, nothing is more noticeable than the large number of schools which are badly supplied with water In ten of them there is said to be no supply at all while connected with two others there are polluted wells In two schools water is obtained from spouts some yards distant, and in one from a dip well 150 yards away which is liable to pollution by cattle The standard of cleanliness must obviously be a low one in these schools

May 11th

SCOTLAND

(FROM OUR OWN CORRESPONDENTS)

The Glasgow Medical Faculty and the General Medical Council

Dr David N Knox has been elected the representative on the General Medical Council of the Glasgow Faculty of Physicians and Surgeons in succession to the late Dr Lindsay Steven

Partick and District Medical Society, Glasgow

A highly successful session of this newly formed society was brought to a close on April 29th, when the annual business meeting was held, Dr Arthur Mechan, the retiring President, being in the chair Practically all the medical men of the district have now become members of the society, and during the session many subjects of considerable interest to the medical profession have been discussed Among such subjects may be mentioned The Notification of Phthisis, the Relation of Practitioners to District Nursing Associations, and the Conditions and Remuneration in Contract Practice In the case of club practice the members have bound themselves to accept not less than the minimum annual fee approved of by the society, i e, 4s per member The following office bearers were elected for the ensuing session —President, Dr J Gibson Graham, Vice Presidents, Dr W Snodgrass and Dr John Morton, Secretary, Dr A W. M Sutherland, Recording Secretary, Dr J King Patrick, Treasurer, Dr John Gracie, Council, Dr D Westwood, Dr W A Caskie, Dr D J Mackintosh, M V O, Dr J Scott, Dr J Hunter, Dr W S Paterson, Dr John Taylor, and Dr Arthur Mechan

Improved Public Health in Renfrewshire.

The death rate for last year in Renfrewshire was 11 777, and this is stated to be the lowest on record in that district The infantile death rate in the lower ward was 62 per 1000 children born and is phenomenally low, the lowest death rate hitherto recorded being 73 The most notable circumstance during the year probably is that for the first time there has been no prosecution under the Public Health Act, and that, too, although the standard of sanitation in the county, instead of being lowered, has steadily, if insensibly, been raised since the inception of the Public Health Department in 1891

School Nurse for Dunfermline

The medical inspection of school children has already been carried out in all the larger towns, and now the smaller centres are turning their attention to the matter Dunfermline, however, has gone one better, and has appointed a school nurse in connexion with the medical inspection of children at a salary of £80 per year Dunfermline school board is in the fortunate position of having behind it the Carnegie trustees, who have offered to pay the nurse's salary

Death of Dr C M Macrae

By the death of Dr Charles Mackenzie Macrae of Stornoway, Lewis has lost one of its oldest inhabitants, and one who did much for the welfare of the island Dr Macrae, who was the son of the Rev Mr Macrae, for many years parish [minister of Barvas, Lewis, died in his residence at Stornoway last week at the advanced age of 91 Three years ago, on account of old age, he resigned the post of medical officer for the Stornoway parish, which he had filled for a period of about 60 years In 1895 he was presented by the inhabitants, and by Lewis people all over the world, with an illuminated address and a purse containing £200, together with a tea and coffee service for Mrs Macrae, in recognition of his 50 years' professional services in the island

The Municipalisation of the Sidlaw Sanatorium

The opposition to the municipalisation of the Sidlaw Sanatorium seems to have met with results A requisition was sent some fortnight ago by three of the town councillors to the Lord Provost, requesting him to call a special meeting of the council to consider a resolution and four alternative proposals The resolution was as follows 'To take a plebiscite of the electors 'for' or 'against' the whole scheme, and communicate the result to the Local Government Board for its guidance " The alternative proposals were as follows (1) To take a plebiscite, and in the event of such plebiscite being against the scheme to abandon the scheme in the meantime and to ask the sanatorium trustees and directors to concur in cancelling the agreement, (2) to abandon the scheme in the meantime, (3) with the concurrence of the sanatorium trustees and directors to hold the agreement as provisional only pending the next municipal election, (4) to take any other action that might be thought proper, including the rescinding or varying of any former resolution of the council The Lord Provost replied that the resolution and the first, third, and fourth proposals were incompetent, and ultimately issued a summons to the members of the council to attend a special meeting of the corporation to be held in the town hall, Dundee, on May 3rd, for the purpose of considering and disposing of ex Bailie Mechan's motion "That the scheme for the municipalisation of the Sidlaw Sanatorium should be abandoned, and that the council accordingly ask the sanatorium trustees and directors to concur in cancelling the agreement made ' The meeting was duly held on May 3rd, when the resolution to abandon the scheme was adopted by 18 votes to 9 A subsequent motion that the sanatorium should be taken over as an institution containing 40 beds, a [illegible] ling t [illegible] een g [illegible] to the effect that a subcommittee be appointed to consider and report as to a scheme under which the medical officer would be empowered to select a certain number of patients suitable for treatment in the sanatorium The desire is that the system should receive a trial The cost of the patients so sent would be met out of the public health rates At a further meeting of the town council held on May 5th a communication was received from the directors of the sanatorium drawing attention to the trouble and expense to which they had been put in connexion with the negotiations which had been instigated by the council, and suggesting that they might get some compensation The flow of subscriptions had to a large extent been diverted, presumably

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Inoculation for Cholera.

COMPARATIVELY little has been heard of late years of inoculation for cholera, probably because there have been no serious epidemics of the disease in large towns or cantonments. The matter has, however, not been lost sight of in one quarter. The number of labourers required for the Assam tea-gardens annually runs into many thousands, and cholera occasionally breaks out among them on the journey. Last year the railway authorities on the Assam and Bengal line were asked to have a hospital carriage on each train carrying coolies, but this was found to be impracticable. Measures were, however, taken to supply fresh water, to disinfect carriages, and to provide accommodation at certain stations for sick persons. Another and more scientific method of preventing any outbreaks is to inoculate the coolies before starting. Correspondence on this subject is mentioned in the annual report of the Indian Tea Association just published. Professor Haffkine, to whom a reference has been made, stated that the inoculation process had been greatly simplified, one dose of serum only being now required, and that only 24 hours' rest is necessary after treatment. It might all the same be advisable to detain persons four or five days before entering infected districts or embarking on steamers, so that a satisfactory state of immunity might be secured. The association has now decided to ask members whether it would be advisable to approach Government on the subject. It would appear, however, that unless the various recruiting agencies act in common no good results can be obtained. Some years ago one firm of labour contractors at Purulia introduced inoculation and carried it on for several seasons. Their business, however, was prejudiced, and they had to discontinue the practice. Professor Haffkine suggests that no undue pressure should be put upon the coolies, only those being inoculated who understood the benefits to be derived, and that efforts should be made to induce the different labour agencies to agree upon a uniform attitude in the matter. This seems the only way in which to gain a fair measure of success, and the Tea Association should be able to bring about such an agreement.

Blackwater Fever.

A letter has been received by the Indian Tea Association from the Government of Eastern Bengal and Assam, stating that as the Fever Commission which had been making investigations in the Dooars was entirely under the control of the Government of India, the Lieutenant-Governor of Bengal did not consider that he would be justified in recommending an extension of the inquiry to Assam until he was in possession of more detailed information regarding the prevalence of the disease there. Orders had accordingly been issued to the Sanitary Commissioner of the province to report whether there were sufficient grounds to justify such a recommendation to the Government of India, and it was suggested that any facts collected, as well as the opinions of medical officers on tea estates, might be communicated to the Sanitary Commissioner. A copy of this letter has been forwarded to the chairman of the Assam branch for his information. It is expected that he will be taking steps to obtain evidence on the lines suggested by Government.

Calcutta Hospitals.

Recent years have witnessed many improvements and developments in hospitals in Calcutta, notably, of course, the Presidency General Hospital and the extensive additions to the Medical College Hospital in the north of the city. The Government of Bengal has now placed the poor of Calcutta under an additional obligation by a much needed extension to the Campbell Hospital in Lower Circular-road. Here two large surgical blocks, one for male and the other for female patients, have been added, providing accommodation for 88 patients of each sex. Both blocks are two-storied and are similar in design, and their appearance from the outside is not unlike that of the new Presidency General Hospital, of course, in miniature. The estimated cost of the extension is Rs. 1,21,317.

Cattle and Game Disease in the Nilgiris.

A bad type of cattle disease is reported as prevalent. It seems that the disease affects game as well as domestic cattle, and that that grand animal, the bison, is perishing in numbers on the Mysore frontier. Travellers on the road between Jeppacandu and Seegoor have come across dead bison and were able to secure the heads and horns, which they brought in to have mounted. Some of these remains show that the best of the herds have thus perished.

Public Health in Bombay.

Plague continues very low in Bombay and the general good health of the city may be gauged from the statistics for January, which show that there were 260 fewer deaths in the month than was the case last January. During the last week of March there were six more plague cases than the week before, but plague is still lower for the time of year than it has been since 1896. The total mortality was 100 lower than in the corresponding week of last year; it was 700 lower than in the same week of 1905. The most satisfactory conclusion to be drawn from the plague figures up to date is that whatever may be the eventual intensity of this year's seasonal epidemic its onset has again been postponed. This means a shortening of the total period for which the city is in the grip of the disease, and last year plague began to decline in April. The rats caught in the raid in the Fort last week were only plague infected to the extent of 2 per cent., and there is trustworthy information that rats are undoubtedly more scarce than usual in the Fort, a state of affairs which may fairly be ascribed to the persistent campaign of the Health Department. A most unsatisfactory point in connexion with the city's health is the freedom with which small-pox is permitted to be imported. The small-pox epidemic is spreading. During the last week of March there were 63 attacks and 19 deaths, and of these cases 27 were imported in the persons of pilgrim passengers off the ships from Jeddah. These people are landed in Bombay suffering from small-pox, and an indefinite number of "contacts" among the ship's passengers are allowed to spread themselves freely through the city. Surely this is a way of deliberately importing disease and death into our midst which ought to receive immediate attention. Perhaps a means of putting a stop to it might be found with the help of the Hajis committee.

April 20th.

Obituary.

EDWARD GEORGE WHITTLE, M.D. LOND., F.R.C.S. ENG., L.R.C.P. LOND.

Dr. Edward George Whittle, who died at Las Palmas last week, for very many years was one of the leading medical men in Brighton. He retired from the profession a few years ago, but unfortunately did not enjoy very good health, and during the last few years was suffering from a heart affection. Early this year he went to Las Palmas in the hopes of deriving benefit from a warmer climate. He wrote home cheerfully, speaking of the progress he was making, and the news of his death came as a great blow to a very large circle of friends. Dr. Whittle received his professional education at University College Hospital, London. He became a Member of the Royal College of Surgeons in 1873, a Licentiate of the Royal College of Physicians and Bachelor of Medicine of the University of London in the next year. In 1876 he became a Fellow of the College of Surgeons and took his Doctorate in 1882. After settling in Brighton he was appointed surgeon to the Royal Alexandra Hospital for Children, and honorary physician to the Brighton and Hove Dispensary for Women and Children. He was the author of a work on "Congestive Neurasthenia; or Insomnia and Nerve Depression," and of several papers in this journal. At the Brighton Health Congress in 1881 he contributed a paper on the Artificial Dieting of Children, and at the annual meeting of the British Medical Association in 1886 read a paper on Melancholia and Insomnia in the Sane. His skill was widely known and he had a large practice both in Brighton and Hove. In 1891 he was elected President of the Brighton Medico-Chirurgical Society. Dr. Whittle was a man of remarkable energy. He indulged in many pastimes and was, perhaps, best known in the athletic world as a tennis player. Twice he gained the distinction of winning the veterans' singles in the All England championship at Eastbourne; also, with Mr. C. M. Perkins, the Veterans' [illegible] many years bathing in the sea all the year round), a skilful musician, and a prominent member of the Masonic craft. He was twice married.

GEORGE ROE CARTER, M.R.C.P. IREL., L.R.C.S. IREL.

Mr. G. Roe Carter, who died on May 3rd in his sixty-seventh year, was a well-known practitioner at Anerley, where for 30 years he enjoyed the confidence of a wide circle of friends and patients. He was also medical officer of health to the Penge urban district council, and in that capacity did not a little towards improving the sanitary condition of the district over which he had charge. Mr. Carter was educated at Ledwich School, Dublin, and at the Meath Hospital. The early years of his professional life were spent at St. Lucia, where he was colonial surgeon and medical officer of health to the island. He was a Fellow of the Royal Institute of Public Health, a member of the Council of the Obstetrical and Gynæcological Section of the Royal Society of Medicine, and formerly a member of the Councils of the British Gynæcological Society and of the Irish Medical Schools and Graduates' Association.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Viscount Candido de Figueiredo Saboia, formerly professor of clinical surgery in Rio de Janeiro and foreign corresponding member of the Paris Academy of Medicine.—Dr. Louis B. Durocher, formerly professor of mental diseases and forensic medicine in Montreal.—Dr. Derville, assistant professor of clinical medicine in the University of Lille.

THE ROYAL SOCIETY CONVERSAZIONE.

SCIENCE was represented in very many directions at the conversazione of the Royal Society which was held at Burlington House on Wednesday last, May 12th. The electrician, the astronomer, the biologist, the physicist, the chemist, the medical man, each alike was certain to find an exhibit having some connexion more or less with his own particular branch of study. Opportunity seems to have been given also on this occasion to those interested in certain developments of applied science to exhibit its triumphs, and it should be added that the exhibits under this head were of general interest.

In the secretaries' room, for example, on the ground floor a most fascinating process for reducing metals to the state of ribbon was in operation. Nothing could be simpler than the method adopted, and since its application is likely to lead to the prevention of industrial poisoning, some prominence may be given to this innovation. Molten metal, it may be lead, tin, zinc, gold, aluminium, is caused to flow through one or more nozzles in a thin stream on to the periphery of a rapidly rotating water-cooled drum. The metal solidifies immediately and it is possible to obtain a ribbon of 1-1000th inch in thickness, and from half a mile to a mile can be obtained from each nozzle per minute. In the principal library Mr. S. Cowper Coles showed some beautiful specimens of glass parabolic mirrors coated with gold. The light reflected by these mirrors has a remarkable penetrating effect in foggy weather, and yet is softer in tone than the light from the silver mirror. Close by were some samples of pitchblende taken from the Cornish mine at Trenwith. Mr. Francis Fox explained that the best specimens contained 33 per cent. of uranium oxide, and from 150 to 200 milligrammes of radium per ton of ore. There were also some fine specimens of uranium salts shown.

One of the most remarkable exhibits was that shown by Professor Norman Collie. This consisted of various forms of glass tubes containing neon and mercury, which when shaken together, even at ordinary pressures, were seen to glow with a strange orange-red light. The phenomenon has, so far, received no explanation. Another interesting glow effect was shown by the Rev. H. V. Gill in his vacuum tubes containing a strip of palladium foil or palladinised platinum foil. On passing the current through [illegible] and around the incandes- [illegible] -blue glow. Sir William Ramsay's exhibit of liquid radium emanation, a subject recently referred to in our columns, attracted considerable interest. It can be reduced to a solid which, when cooled further, phosphoresces very strongly and more intensely than does the gas.

As we have said, medical studies were well represented. Dr. A. D. Waller, for example, gave a demonstration of the electrical variation of the human heart and of the dog's [illegible] galvanometer. The subject was [illegible] who regarded the proceedings [illegible] amused resignation. He was connected with the galvanometer by standing with his near fore and off hind foot in two pans containing salt water and the electrodes. The apparatus was also fitted with vessels into which visitors could dip their hands and so see the diphasic variations in their own heart beats, but probably owing to the fact that the electrical resistance of the skin is very high, unless the [illegible] e, the human [illegible] We intend [illegible] an account of Professor Einthoven's recent work in this field.

[illegible] exhibited a fine series of diagrams illus- [illegible] first time in this exhibit, sarcoma being developed upon an antecedent carcinoma. Lieutenant-Colonel W. B. Leishman, R.A.M.C., presented microscopic specimens illustrating the transmission of tick fever. The various stages of the tick's life were also illustrated by living examples, and the microscopic specimens showed the alterations which the spirochætæ appear to undergo in their passage from one generation of tick to another. Mr. S. G. Shattock exhibited the microscopic section already referred to in our columns of the aorta of King Menephtah (traditionally regarded as the Pharaoh of the Exodus), showing senile calcification. Mr. L. Doncaster exhibited a beautiful collection of currant moths illustrating sex-inheritance, and Professor Karl Pearson, with Mr. E. Nettleship and Mr. C. H. Usher, presented to view a very interesting series of plates illustrating a forthcoming monograph on albinism. The Director of the Royal Gardens, Kew, showed his experiments with cyclamen seedlings, which normally have only one cotyledon; if this be entirely removed the second cotyledon will develop. If only the lamina be cut off a new lamina will bud out from the side of the leaf stalk near the apex, and on the removal of this second lamina a third can be induced to grow out from its stalk just below the apex. If the lamina be mutilated and not wholly removed, new growths will also be formed.

Sir Archibald Geikie, K.C.B., D.C.L., received the Fellows and guests, and there was a large and distinguished company present.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the First Professional Examination for the Licence in Dental Surgery held last week the following gentlemen were approved in the subjects indicated below:—

Mechanical Dentistry and Dent [illegible] Adams, Guy's Hospital, Sidni [illegible] Hospital, Edwin Randolph B [illegible] Samuel Beare, National Dental [illegible] Hospital; Walter Sydney Bevis [illegible] Fisher Camp, Guy's Hospital; [illegible] Royal Dental Hospital, Regina [illegible] pital; William Dod Dye, Roya [illegible] Geekie, National Dental Hos [illegible] Royal Dental Hospital, Alber [illegible] University; Guy William Ln [illegible] Eric Greaves Ireland, Royal [illegible] Oldham Jensen, Royal Dental [illegible] Hospital; Donald Henry McI [illegible] Harold Leonard Meyer, Guy's I [illegible] Royal Dental Hospital, George [illegible] Hospital; Arthur Hugh Spencer Palmer, University College, Bristol; Fred Quayle, Royal Dental Hospital, John Hargrave [illegible] Hospital; Charleston Edmund Rice, Guy's Hospital; [illegible] spital; Sidney Sexton, University [illegible] fred Slade, University College, [illegible] Guy's Hospital; William Suffield, [illegible] ton Tait; Guy's Hospital, Arthur

Cyril Tuft, Royal Dental Hospital; Basil William Tyson, University College, Bristol; and George Trevor Yonge, Royal Dental Hospital.

Mechanical Dentistry.—Harold Edgar Bower, Royal Dental Hospital; Oscar Bullock, Royal Dental Hospital; Henry O'Neil Butler, Royal Dental Hospital; Henry Charles Corke, Guy's Hospital; Henry Oswald Dumayne, Guy's Hospital; John Eric Rhys Evans, Guy's Hospital; Frederick Amos Jaques, Guy's Hospital; Roy William List, Royal Dental Hospital; George Bertrand Lucas, Royal Dental Hospital; John Dudley Melhuish, University College, Bristol; Owen Colville Morphy, Royal Dental Hospital; Wilfrid Stephen Ollis, Guy's Hospital; Cyril Arthur Pollard, Guy's Hospital; Gordon Evelyn Rowstron, Guy's Hospital; Frank Percival Sturdee, Royal Dental Hospital; William Vere Taylor Styles, National Dental Hospital; and John Herbert Wiles, Guy's Hospital.

Dental [illegible] ert, Royal Dental Hospital; Henry James [illegible]. Gordon Comyn, Royal Dental Hospital; [illegible] Guy's Hospital; Joseph Coplans, Royal [illegible] eroy Gillett, Michigan University; Arthur Oliver Gray, Royal Dental Hospital; Robert Daniel Gregg, Liverpool University; Robert John Harley-Mason, Royal Dental Hospital; Harold Harrison, Guy's Hospital; Harold Holburn, Durham University; Samuel Carson Huggins, Dublin and Royal Dental Hospital; Frederic Winbolt Lewis, Royal Dental Hospital; Claude Vernon Osb[illegible] C[illegible]ge, Bristol; Ronald Victor Payton, Birmingh[illegible] Ernest Frederick Peaty, Guy's Hospital; [illegible] P[illegible]n, Royal Dental Hospital; Richard Angwin Rail, Royal Dental Hospital, Warren Longtoft Roberts, Lee[illegible] Stacey Robinson, Birmingham University; [illegible], Royal Dental Hospital; Alfred Edmund Vi[illegible] Hospital; Claude Taylor, Royal Dental Hosp[illegible] Marling West, Royal Dental Hospital; Sidney White, Royal Dental Hospital; Charles Eustace Williams, Royal Dental Hospital; William Hector Wotton, Guy's Hospital; and Edgar Olyve Yerbury, Guy's Hospital.

FOREIGN UNIVERSITY INTELLIGENCE.—*Greifswald:* Professor Stern of Breslau, Director of the Medical Polyclinic there, has accepted the invitation to the chair of Medicine, together with the charge of the Medical Clinic.—*Lemberg:* Dr. Georg Modrakowski has been recognised as *privat-docent* of Pharmacology.—*Munich:* Dr. Heine of Königsberg has been appointed Extraordinary Professor of Otology in succession to the late Professor Bezold.

KING'S COLLEGE (UNIVERSITY OF LONDON).—The following two advanced courses of special lectures on Physiology will be delivered in the Physiological Laboratory, King's College, London, during the present term: 1. A course of eight lectures on the Senses of Hearing, Taste, and Smell, by Professor C. S. Myers, on Fridays (May 13th to June 25th), at 4.30 P.M. (This course was commenced on May 7th.) 2. A course of four lectures with experimental demonstrations on the Secretion of Urine, by Professor T. G. Brodie, on Mondays (June 7th to 28th), at 4.30 P.M. These courses are free to all internal students of the University of London and to all medical practitioners on presentation of their visiting cards.

DONATIONS AND BEQUESTS.—Lord Sandhurst, treasurer of St. Bartholomew's Hospital, has received from the Company of Merchant Taylors £500, being the first moiety of a further grant of £1000 towards the building fund of the hospital.—By the will of the late Mrs. M. M. F. MacEwan the London Hospital will receive £5000 and the Hospital for Incurables, Putney, £2000.—Under the will of the late Mrs. L. J. Grice the West Bromwich District Hospital will benefit by a sum of £1000.—The late Mr. John Smith of Adderley, Monifieth, Forfarshire, has by will left £2000 to the Dundee Royal Infirmary, £1000 to the Dundee Royal Victoria Hospital for Incurables, and £500 to the Gerard Cottage Hospital, Monifieth.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON).—A course of four lectures on Statistical Methods in Physiology and Medicine will be delivered in the physiological theatre of the College at 4.30 P.M. on Fridays, May 21st, June 4th, 11th, and 18th, by Mr. M. Greenwood, jun. (director of the London Hospital Statistical Department and senior demonstrator of physiology in the Medical College). The lectures will deal with: I. General objects of the theory of probability, its relation to observational and experimental science; some practical applications of elementary principles to examples of medical interest. II. Variation and its quantitative study, illustrations of method: (1) phagocytic counts and (2) age incidence of diseases. The conception of a "probable error," with examples. III. Correlation and its quantitative study, illustrations: (1) weights of viscera; (2) caisson disease and body weight; (3) incidence of plague in rats and men; and (4) incidence of phthisis in husband and wife. IV. Statistical fallacies, material fallacies, and analytical fallacies, with illustrations. This course, which has been approved by the Senate under the scheme for advanced lectures in physiology, is free to all students of the University and others on presentation of their visiting cards. It is proposed to hold a practical class in connexion with this course, for particulars respecting which applications should be addressed to the Warden of London Hospital Medical College.

THE CHEMISTS' EXHIBITION.—The organisation of this annual exhibition is evidently a success, since the present year witnesses the fifteenth of the series. The proceedings were opened on May 10th and the Horticultural Hall in Vincent-square, Westminster, was again chosen for the occasion. It must be admitted that drugs and the multiple accessories of the trade provide an abundance of material wherewith to make the whole scene a picturesque one. The stalls were admirably arranged and the ingenuity with which the various goods were displayed was the subject of very general remark by the visitors, among whom were, besides those more or less interested in the commercial aspects of the exhibition, a good number of medical men and hospital nurses. Proprietary articles were fairly strongly represented and there were many examples to be seen of real pharmaceutical advances. The exhibition is in many ways instructive, and new ideas of value to medical men are almost certain to be gleaned from a visit to it.

BAD-NAUHEIM AT EVERSLEY, HANTS.—On Saturday, May 1st, a number of leading physicians from London and elsewhere availed themselves of the invitation of Dr. J. G. Garson to visit the Eversley Sanatoria and to inspect the new Nauheim baths he has recently erected there, which were opened to the public for the first time that day. The weather was fine and several of the company present motored down from town. The sanatoria are situated in one of the most beautiful and healthy districts of North Hampshire, familiar to many as that in which the late Charles Kingsley lived for many years while rector of the parish and where he wrote several of his best known works. The sanatoria comprise two distinct establishments, Moorcote and Glencote. In the former tuberculous cases are treated on the Nordrach system, while in the latter are received patients suffering from non-tuberculous ailments, such as affections of the heart and blood, disorders of the nervous system and metabolism, general debility, and convalescents after illness. It is in connexion with this latter establishment that the new bath-house for Nauheim and other baths has been inaugurated. The Moorcote Sanatorium for the Open-air Treatment of Tuberculosis has been established for ten years, but has during the last three years undergone many improvements at the hands of the present proprietor. The Glencote Sanatorium was opened for non-tuberculous patients about three years ago on the model of the Luisenheim at St. Blasien in the Black Forest. The arrangements for the housing and treatment as well as for the comfort and amusement of patients were shown. The sun and air bath situated in a clearance in the neighbouring woods and the tracts on the lawn for the practice of Frenkel exercises by patients suffering from locomotor ataxy are notable features of the armamenta available for the treatment of affections of the nervous system. After repeated visits to many German and other spas, Dr. Garson came to the conclusion that the most generally useful and efficient for the treatment of the greatest number of complaints are the Nauheim baths which have also been reproduced more or less perfectly in many health resorts in Germany, but usually very imperfectly in England. The special features of the Bad-Nauheim bath waters are that they contain alkaline salts, chiefly chlorides and [illegible] arged with carbonic acid gas, and they [illegible] at temperatures varying from 30° to 34° C. according to the spring. The water is impregnated with the gas, but before the patient enters the bath no bubbling of the gas through the water is apparent, although on getting into it his body becomes at once covered over with a layer of exceedingly minute beads of carbonic acid gas which differences in temperature cause to be liberated from the water. To produce these saline carbonic acid baths artificially bicarbonate of soda and hydrochloric acid, besides the other essential salts of Nauheim bath water, have been employed, or CO_2 has been made to pass through finely perforated tubes placed on the floor of the bath tubs. To get a good artificial CO_2 bath, however, the water used for the bath has to be charged under considerable pressure by means of suitable apparatus. Dr. Garson has procured from Berlin the newest and most improved apparatus for charging the water of the Nauheim baths at Eversley with CO_2 gas by which the highest degree of impregnation is obtained, and with it is able to produce the strongest CO_2 Nauheim baths or the weakest as required. The process by which this is effected was explained to the visitors. The chemicals used in the preparation of the baths are imported direct from Bad-Nauheim. The baths are taken on alternate days and are supplemented by drinking Nauheim waters, a stock of which has been procured. In heart cases Nauheim remedial gymnastics and massage are given on the days when the patient has no bath. The whole Bad-Nauheim treatment has therefore been arranged for and is now available for patients who prefer to have the treatment at home. Besides the Nauheim baths, pine and other medicated baths, Scotch douche, needle and rain baths have been installed. All the baths are available for patients at very moderate charges and at cost price to members of the medical profession requiring treatment.

THE RECENT POOR-LAW REPORT: A CONFERENCE. With a view to attract public attention to the important matters raised in the report of the Royal Commission on the Poor-laws and Relief of Distress, the British Institute of Social Service has arranged for a two days' non-partisan conference [illegible] Lord Mayor. The intention is that after the paper has been read the chairman shall make a reply and that the meeting shall then be thrown open for discussion with a time-limit for speeches. No resolutions will be put to the meeting. *The following programme has been arranged.* Session No. 1.—May 18th, 11.30 A.M.: The Machinery Proposed, opened by Mr. Sidney Webb, L.C.C.; chairman, Mr. T. Hancock Nunn. Session No. 2.—May 18th, 3 P.M.: The Treatment of Infants and Children, opened by Mr. George Lansbury; chairman, the Earl of Stamford. Session No. 3.—May 19th, 11.30 A.M.: The Treatment of the Able-bodied, including the Unemployed, opened by the Rev. Russell Wakefield; chairman, Mr. Walter Hazell. Session No. 4.—May 19th, 3 P.M.: The Treatment of the Aged and Sick, opened by Mr. J. R. Brooke; chairman, Mr. Percy Alden, M.P.

THE ROYAL SANITARY INSTITUTE.—The annual dinner of the Royal Sanitary Institute took place on May 11th at the Langham Hotel under the chairmanship of the Duke of Northumberland, President of the Institute. About 80 members and their guests were present, including Sir Dyce Duckworth, who proposed the toast of "The Navy, the Army, and the Territorial Forces," reply being made by Sir Alfred Keogh. The latter, in response to interest audibly manifested by those present in his work in connexion with the Territorial Army, spoke in high terms of the zeal which he had found and which he had been able to stimulate and render effective in the direction of sanitary organisation in that branch of the service. He expressed the hope that such work would ultimately reduce the work of the hospitals in war more and more to the care of the wounded and relieve them of the necessity of providing for victims of disease. To the toast of "The Houses of Parliament," proposed by Sir Alexander Binnie, Sir Francis Sharp Powell, M.P., who, by the way, first sat in the House of Commons in 1857, replied, commending the "wholesome discontent and desire to move forward" which was responsible for useful reform. Next "The Royal Sanitary Institute" was proposed by the chairman, who alluded to the necessity which must arise out of a growing dissatisfaction at the advance of rates, for local authorities to press for State assistance to enable them to bear the burdens laid upon them by legislation. These burdens took the form of a *trinodis necessitas*, composed of roads, care of children, and sanitation. Mr. H. D. Searles-Wood, chairman of the Council, replied on behalf of the Institute. In replying to the toast of "The Guests," proposed by Mr. A. Wynter Blyth, Colonel T. W. Harding, President of the annual congress to be held at Leeds this year, promised the members of the institute a hospitable welcome at Leeds when they assemble for their congress in that city. Among were Sir Shirley Murphy, the Right Hon. Dr. Robert Farquharson, Sir John Tweedy, and Sir Henry Burdett. Colonel J. Lane Notter, deputy chairman of the Council; Dr. P. Boobbyer, chairman of the Exhibition Committee; Mr. Henry Adams, chairman of the Board of Examiners; and Mr. E. White Wallis, secretary to the Institute, also supported the President.

THE NEW PATHOLOGICAL BUILDING AT ST. BARTHOLOMEW'S HOSPITAL.—The new pathological extension of St. Bartholomew's Hospital, the foundation-stone of which was laid by Lady Ludlow at the end of 1907, was opened on May 7th by the Lord Mayor. The building, which was designed by Mr. E. B. I'Anson, architect to the hospital, is situated between the King Henry VIII. gateway and the hospital library and museum, and consists of six storeys containing laboratories for clinical and chemical pathology, morbid histology and bacteriology, and a pathological library and a post-mortem room. The Lord Mayor, who was received by Lord Sandhurst (treasurer), Dr. Norman Moore, Mr. Harrison Cripps, Dr. F. W. Andrewes, Dr. J. H. Drysdale, and Miss Stewart, was presented by the treasurer on behalf of the governors of the hospital with an address. In his reply, the Lord Mayor said that the opening of the pathological block meant the increased usefulness of the hospital, by which not only the citizens of London would benefit but the great world outside as well. The great advances that had been made in curative and preventive medicine during the past 20 years were due largely to the advances made in the study of pathology. The Lord Mayor concluded with an appeal to the City of London to support St. Bartholomew's Hospital.

INSTRUCTION IN METROPOLITAN FEVER HOSPITALS.—At a recent meeting of the Metropolitan Asylums Board the hospitals committee reported having considered a letter from Dr. H. R. Kenwood, professor of hygiene at University College, London, in which he asked, on behalf of members of his class in public health, whether "the existing conditions under which they are at present signed up for the three months' attendance upon a fever hospital which is required by the regulations for the diploma" can be modified. In pursuance of instructions the medical officer for general purposes (Dr. H. E. Cuff) submitted a full report on the whole subject, giving in detail the steps which led to the adoption of the present regulations, and pointing out that the present scheme does not accommodate itself to the circumstances of the large majority of the candidates for the diploma in public health. The existing arrangements require candidates who wish to study administration in the hospitals of the Board to reside therein. The committee had gone into the matter very carefully, and while it was of opinion that the present arrangements involving residence should be retained unaltered, they thought that steps should be taken, as suggested by Dr. Cuff in his report, to supplement the facilities now afforded by instituting at two of the Board's hospitals classes at which candidates for the diploma may receive instruction in administration without being compelled to enter into residence. They recommended :—

[illegible] officer for the general purposes.

This was agreed to without comment.

PROSECUTION OF A [illegible] UNDER THE MIDWIVES ACT: [illegible] Eccles (Lancs) police court o[illegible] heard under Section XI. of the Midwives Act, in whic[illegible] Mr. George Sidley, L.R.C.P. Edin., was proceeded aga[illegible] by the Director of Public Prosecutions, who was [illegible]sented by Mr. Lewis, for aiding and abetting Sara[illegible] Marsh fraudulently to procure admission to the [illegible] Roll, Marsh being charged with the major offence. Sidley was defended by Mr. F. W. Ogden, instructed [illegible] Mr. Hempson, solicitor to the Medical Defence Un[illegible] According to counsel's opening speech and the eviden[illegible] Mr. Sidley, who is a prominent m[illegible] filled in a certificate stating that Sarah Ann Marsh had been in *bona-fide* practice as a midwife since 1899, and that she was trustworthy, sober, and of good moral character. This certificate was forwarded in due course to the Central Midwives Board and upon the strength of it Marsh was registered on the Board's roll in April, 1905, under Section II. of the Midwives Act. In February of this year she was convicted at the Eccles police court of being drunk and incapable. This fact was reported to the Central Midwives Board with the result that further inquiries were made and it was found that Marsh had been repeatedly convicted of similar offences in the same court, eight of these convictions having occurred before Mr. Sidley had given his certificate and four subsequently. On March 23rd her name was struck off the Roll of Midwives in consequence of these disclosures. The matter was brought before the Director of Public Prosecutions who considered that proceedings should be taken against Mr. Sidley for culpably reckless conduct in signing the certificate. The chief evidence for the prosecution was given by Mr. George William Duncan, secretary to the Central Midwives Board, and Inspector Howarth, who proved the convictions against Marsh. For the defence Mr. Ogden submitted that there was no evidence to prove that Mr. Sidley was aware of Marsh's convictions or drunkenness when he gave the certificate, and that his action in doing so had in no way been proved false or fraudulent. He had not even issued the certificate recklessly. Several near neighbours of Mrs. Marsh were unaware of her drinking habits, which could not therefore be rightly called notorious. Mr. Sidley had only certified that he had known Marsh for years and knew nothing wrong against her, which was quite true. Counsel asked the magistrates to dismiss the summons, and after a short deliberation the chairman announced that they were unanimous in doing so, but that Mrs. Marsh would be committed for trial at the next quarter sessions. We congratulate Mr. Sidley and the Medical Defence Union on the issue of the case.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Parliamentary Session.

PERHAPS it is rather soon to write definitely as to the probable length of the Parliamentary session. Members, however, are becoming convinced that it will extend further into the autumn months than is usually the case. In fact, one report is current that if the Government is to carry its Budget proposals substantially intact it will be September before Parliament is prorogued.

The Budget.

Some days and even weeks often pass before the ramifications of an elaborate Budget are laid bare. The financial proposals of Mr. LLOYD GEORGE are more than usually complicated, and with respect to some of them modifications may be made after debate has revealed the incidence of the new imposts. For instance, the Chancellor of the Exchequer is giving careful consideration to the advisability of granting

S[illegible]cial rebate on spirits used in the manufacture of medicine. With

£20[illegible] to the question of a rebate on the duty on the petrol used by

Royal [illegible]en in their motor-cars, the Government exhibits less disposi-

Gerard Conciliatory. There is no doubt that the question will be

[illegible]en the petrol duty comes under the review of the House

LONDON E[illegible] [illegible]ess party controversy is imparted into the matter and

OF LONDON).—A[illegible] demand for a rebate in favour of medical men

[illegible] House, the more likely is the Government

[illegible] ular case.

May 21st, June 4th, 11th, [illegible]n Ambulances Bill.

jun. (director of the London

and senior demonstrator of phys[illegible] [illegible]litan Ambulances Bill, Sir WILLIAM

The lectures will deal with: I. G[illegible] the subject with which it deals.

of probability, its relation to observ[illegible] [illegible]ht powers from Parliament to

science; some practical applications o[illegible] [illegible]lishment and maintenance

to examples of medical interest. II. [illegible]eet accident and illness

quantitative study, illustrations of method [illegible]se proposals obtained

counts and (2) age incidence of diseases. The [illegible]roval of the Lords.

a "probable error," with examples. III. Corr[illegible] [illegible]es of the Home

[illegible] issued and

[illegible], illustrations: (1) weights of [illegible]on which

[illegible]sson di[illegible] body weight; (3) incidence of [illegible]inister

. and [illegible] 4) incidence of phthisis in husbands

[illegible]fe. [illegible]al fallacies, material fallacies, and

l f[illegible] illustrations. This course, which

COLLINS has produced a Bill giving effect to his views. He states that it virtually reproduces the powers sought by the London County Council three years ago. The single operative clause is designed to allow that body to constitute the administrative machinery and acquire the lands and buildings necessary for the establishment and maintenance of an ambulance service. In presenting the Bill Sir WILLIAM COLLINS has the support of Colonel LOCKWOOD, Sir WALTER FOSTER, Sir WILLIAM BULL, Mr. DICKINSON, Mr. CORRIE GRANT, Mr. STEADMAN, Mr. STRAUS, Mr. J. W. WILSON, and Mr. WATERLOW.

East India (Contagious Diseases) Return.

Nearly 11 months have elapsed between the date on which the return with regard to contagious diseases in India was ordered by the House of Commons and its publication this week. It shows in respect of each cantonment or other place where soldiers are stationed in India the methods in force for dealing with women suffering from venereal disease.

The Medical Acts (Amendment) Bill.

Mr. COOPER's Medical Acts (Amendment) Bill, which deals with the administration of anæsthetics, has up to the present failed to secure a second reading. The motions for its rejection still remain on the notice paper. Mr. COOPER has indicated his willingness to have the Bill referred to a Select Committee by giving notice of a motion to do so after it has received a second reading. One of the advantages of sending a Bill to a Select Committee is that evidence both for and against its proposals may be heard. On the other hand, when a Bill does go to a Select Committee the delay occasioned by the hearing of witnesses and the preparation of a report is generally fatal to its progress during that session. If a good case is made out for it before the Committee it is placed in a stronger Parliamentary position in the following year.

Milk Legislation.

Mr. BURNS, the President of the Local Government Board, has not yet had an opportunity of introducing the promised Bill on milk-supply. At present the Budget monopolises the time and energies of the House of Commons, and this fact would be an obstacle to the progress of the measure if it were introduced. Although the right honourable gentleman has the Bill drafted and is desirous of submitting it to Parliament, those who are anxious to see it formally placed before the House are beginning to despair of its introduction before Whitsuntide. The longer the measure is delayed the less probable does its passage into law this year become. No one doubts the desire of Mr. BURNS to carry legislation on the important subject of milk-supply, but sometimes the best intentions of a Minister are checked by the obstacle of a crowded Parliamentary session.

HOUSE OF COMMONS.

WEDNESDAY, MAY 5TH.

The Recommendations of the Belfast Health Commission.

Mr. DEVLIN asked the Chief Secretary to the Lord Lieutenant of Ireland whether he could state what steps, if any, had been taken to carry out the recommendations of the Belfast Health Commission.—[illegible] the following written reply: The recommenda-[illegible] [illegible]lth Commission were so various and complex [illegible] [illegible]ction which would accurately cover a[illegible] matters pending the is[illegible] put other matters in trai[illegible] moreover, after conside[illegible] of the Commission, addr[illegible] regard to such of the [illegible] received suitable attention.

Poor-law Medical Relief to Married Women.

Mr. BENNETT asked the President of the Local Government Board whether his attention had been called to Dr. J. C. McVail's statements in his Report to the Poor-law Commissioners that in some unions married women who were ill and needed relief in the workhouse infirmary were unable to obtain it unless the husband himself came into the workhouse, because the guardians believed that they could not legally admit a wife without a husband; whether he had noticed the case where the guardians believed that they could not take into the workhouse a mother and three children who were suffering from itch unless the father (who was free from that complaint) came in also; and whether he would send a circular to the Poor-law inspectors and guardians informing them that married women [illegible] nursing, and children who were destitu[illegible] [illegible]lly [illegible] [illegible]er [illegible] [illegible]aw

[illegible]RNS wrote in reply: In [illegible] [illegible] Prohibitory Order is in force unions [illegible] must be relieved in the work-an abl[illegible] house, [illegible]nily of such person as may be resident with him or her and may not be in employment. This rule, [illegible] [illegible]exceptions in certain cases, one of which is [illegible] [illegible]elief on account of any sickness, accident, [illegible] affecting such person or any of his or her [illegible] well aware of the law on this point and I have no reason to suppose that guardians and their officers generally are not acquainted with it. I will, however, instruct the inspectors in their communications with the guardians and their officers to bear the matter in mind and to remove any misapprehension which they may find to exist with regard to it.

THURSDAY, MAY 6TH.

The Duty on Spirits and the Price of Medicines.

Mr. LONSDALE asked the Chancellor of the Exchequer whether his [illegible]ntion had been called to the fact that one effect of the proposed increase of 3*s.* 9*d.* per gallon in the duty on proof spirit would be an advance in the price of many medicines; and whether he would consider the advisability of granting a special rebate on spirits used in the manufacture of medicine.—Mr. LLOYD GEORGE replied: I have received on this point a certain number of letters to which I am giving careful consideration.

The Death of a Child by Burning.

[illegible] the framers of the Children Act; and whether he would consider the propriety of amending the law in order to secure that all fires were properly guarded.—Mr. GLADSTONE furnished the following written [illegible] it in the case referred to in the [illegible] to reach a bag hanging on the [illegible] ult that her clothes caught fire. [illegible] rliament against every source of [illegible] Act was intended to meet the [illegible] I am afraid that it would be [illegible] h exceptional circumstances as [illegible]

The New Public Abattoir at Belfast.

In answer to Mr. DEVLIN, Mr BIRRELL (Chief Secretary to the Lord Lieutenant for Ireland) replied The Belfast corporation last autumn decided to proceed with the erection of a new abattoir and the necessary plans had been completed. The corporation deferred taking further action pending consideration of a report to be made by a deputation to visit abattoirs in other countries The Local Government Board understand that the report will shortly be laid before the corporation.

Liverpool Milk supply.

Mr. TYSON WILSON [illegible] Board whether his atte [illegible] it had [illegible] under- [illegible] r to its [illegible] olated. [illegible] ere, as [illegible] council [illegible] them. [illegible] all for [illegible] to have [illegible]

MONDAY, MAY 10TH.

Medical Men and the Petrol Duty.

Mr. JOYNSON-HICKS asked the Chancellor of the Exchequer whether, having regard to the fact that he was proposing to place only half the [illegible] e in their [illegible] upon the [illegible] already [illegible] ct of the [illegible] her there [illegible] rol which they consume.

Mr. JOYNSON-HICKS: Will the right honourable gentleman receive a [illegible]

No reply was given.

Mentally Defective Persons in Workhouses.

[illegible]

Tuberculous Cows.

[illegible]

Belfast Sewage Scheme.

Mr. DEVLIN asked the Chief Secretary to the Lord Lieutenant of [illegible] the proposed method of treating the sewage. The matter is still under consideration.

TUESDAY, MAY 11TH.

Deaths from Anæsthetics.

Mr. COOPER asked the Home Secretary to state (1) the number of persons who had died under an anæsthetic during the years 1907 and [illegible]

Year.	All anæsthetics (including nitrous oxide).	Nitrous oxide.
1903	146	5
1904	156	1
1905	155	1
1906	183	3
1907	166	3

The figures for the year 1908 are not yet available.

WEDNESDAY, MAY 12TH.

The Medical Inspection of Boarded-out Children.

Mr. WALTER ROCH asked the President of the Local Government [illegible] the statement made [illegible] on the Poor-law that [illegible] were not as a rule [illegible] were being taken [illegible] these schools.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, London.

Lectures to Practising Midwives. By Victoria E. M. Bennett, M.B., B S. Lond., D P.H. Camb With Preface by Mrs. Mary Scharlieb, M.D., M.S. Lond. Price 4*s.* net.

BOOT, JESSE, Chairman, COMPANY CHEMISTS' ASSOCIATION, London.

The Pharmacy Acts, 1851 to 1908. By Hugh H. L. Bellot, M.A., D C.L., Barrister-at Law. With a Foreword by Jesse Boot. Price 3*s.* 6*d.*

CASSELL AND COMPANY, LIMITED, London, New York, Toronto, and Melbourne.

Parenthood and Race Culture. An Outline of Eugenics. By Caleb Williams Saleeby, M.D., Ch.B., F.Z S., F.R.S. Edin. Price 7*s.* 6*d.* net.

CAXTON PUBLISHING COMPANY, London.

Th [illegible] etrics. Edited by G. [illegible] R C S.E., F.R.S E., an [illegible] With a Preface by S [illegible] F.R C.S.E., F.R.S.E [illegible]

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions [illegible] *this column, are* [illegible] *rected to the Sub* [illegible] *y morning of each* [illegible]

ARNOLD MILES B., M D. Vict., D.P.H. Cantab., has been appointed [illegible]

GIUSEPPI, P. L., M.B. Lond., [illegible] has been appointed [illegible] Resident Medical Officer at Queen Charlotte's Hospital.

HUGHES, BASIL, M.B., B C. Cantab., M.R C S., L.R C.P. Lond., has been appointed Junior House Physician at King's College Hospital.

McCALL, J., L.R.C.P. Edin., has been appointed House Surgeon and Secretary to the Hertford County Hospital.

McDONALD, C. E. W., M.R.C.S., L.R.C.P. Lond., has been appointed House Accoucheur at King's College Hospital.

PORTER, CHARLES, M.D., C.M. Edin., M.R.C.P. Edin., has been appointed Medical Officer of Health of Marylebone.

PRESCOTT, N., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at King's College Hospital.

RANKEN, DAVID, M.B., B.S. Lond., M.B., B.S. Durh., has been appointed *Resident Medical Officer at the Newcastle-on-Tyne* Hospital for Sick Children.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERTILLERY URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary £350 per annum.

ALBERT DOCK HOSPITAL, Connaught-road, E.—Senior House Surgeon and Registrar. Also House Surgeon. Salary of former £100 per annum, and of latter £50 per annum, with board, residence, and washing.

ASHTON-UNDER-LYNE, DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Assistant House Surgeon. Salary £90 per annum, with board, &c.

BARNSLEY, BECKETT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and lodging.

BETHNAL GREEN INFIRMARY.—Assistant Medical Officer. Salary £100 per annum, with apartments, board, and washing.

BIRKENHEAD UNION INFIRMARY AND SANATORIUM.—Resident Assistant Medical Officer. Salary £120 per annum, with board, washing, and apartments.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £170 per annum, with rooms, fire, lights, and attendance.

BIRMINGHAM INFIRMARY.—Assistant Resident Medical Officer. Salary £104 per annum, with apartments, rations, &c.

BRIGHTON, HOVE, and PRESTON DISPENSARY.—House Surgeon, unmarried. Salary £130 per annum, with board and residence.

BRITISH LYING-IN HOSPITAL, Endell-street, W.C.—Resident Medical Officer. Salary at rate of £50 per annum, with board, lodging, and washing.

BURY INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, and attendance.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Surgeon. Salary at rate of £70 per annum, with apartments, board, and laundry.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Surgeon, also Assistant House Surgeon, both unmarried. Salaries £80 and £60 per annum respectively, with board and lodging.

CAPE COLONY, FRERE HOSPITAL, East London.—Resident Medical Officer. Salary £300 per annum.

CATERHAM ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with board, apartments, and laundry.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Clinical Assistant.

DERBYSHIRE ROYAL INFIRMARY.—House Surgeon. Salary £100 per annum, with apartments, board, &c.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with residence, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Clinical Assistants.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, London, S.E.—House Physician. Salary at rate of £60 per annum, with board, residence, and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

GUY'S HOSPITAL.—Two Ophthalmic Assistantships.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Salary £25.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £30, with board and residence.

IPSWICH, EAST SUFFOLK HOSPITAL.—Senior House Surgeon. Salary £80 per annum.

KING EDWARD VII. SANATORIUM, Midhurst, Sussex.—Senior Assistant Medical Officer. Salary £150 per annum, with board, lodging, and attendance.

KIRKMABRECK PARISH COUNCIL.—Medical Officer. Salary £40 per annum.

LIVERPOOL, CITY OF, EDUCATION COMMITTEE.—School Medical Officer. Salary £250 per annum.

LONDON COUNTY ASYLUM, Colney Hatch, New Southgate.—Junior Assistant Medical Officer. Salary £160 per annum, with board, apartments, and washing.

MANCHESTER ROYAL INFIRMARY.—Surgical Registrar (non-resident). Salary £80 per annum.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Third and Fourth House Surgeons for six months. Salary £25, with board and residence

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Junior House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and laundry

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Junior Resident Medical Officer. Salary £50 per annum, with board and residence.

NEW HOSPITAL FOR WOMEN.—House Physician, also Resident Medical [illegible] artment (females). [illegible] —*Locum Tenens for* three and a half [illegible] rd, lodging, and washing.

OLDHAM INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing.

PADDINGTON INFIRMARY AND WORKHOUSE.—Assistant Medical Superintendent and Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

POOLE, CORNELIA HOSPITAL.—Honorary Ophthalmic Surgeon, Assistant Medical Officer to Out-patients, and Anæsthetist.

PORTSMOUTH WORKHOUSE AND INFIRMARY.—Second Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with apartments, rations, &c.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Honorary Anæsthetist.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Medical Officer in charge of Electrical Department. Salary £50 per annum.

RAINHILL, NEAR LIVERPOOL, COUNTY ASYLUM.—Assistant Medical Officer for the summer months. Salary £4 4s. per week, with apartments and board.

REDHILL, EARLSWOOD ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £130 per annum, with board, lodging, washing, &c.

ROYAL PIMLICO DISPENSARY, 104, Buckingham Palace-road, S.W.—Resident Medical Officer and Secretary. Salary £100 per annum, with house, fire, light, &c.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, Strand, W.C.—Clinical Assistants.

ST. ANDREW'S UNIVERSITY.—Additional Examiners.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, West Brompton, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, and washing.

SHEFFIELD, EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

SHEFFIELD EDUCATION COMMITTEE.—Assistant Medical Officer for Elementary Schools. Salary £250 per annum.

SHEFFIELD, ROYAL INFIRMARY.—Honorary Ophthalmic Surgeon.

SOUTHAMPTON, COUNTY BOROUGH OF.—Assistant Medical Officer of Health. Salary £250 per annum.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—House Physician. Salary £100 per annum, with apartments, board, and washing.

SUFFOLK DISTRICT ASYLUM, Melton.—Second Assistant Medical Officer, *unmarried. Salary £160 per annum*, with board, apartments, attendance, and laundry.

TUNBRIDGE WELLS GENERAL HOSPITAL.—Junior Resident Medical Officer, unmarried. Salary £80 per annum, with board, apartments, &c.

WALLINGFORD, BERKS COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £140 per annum, with board, apartments, attendance, &c.

WALSALL AND DISTRICT HOSPITAL.—House Surgeon, also Junior House Surgeon. Salary of former £100 and of latter £80 per annum, with board, residence, &c.

WARRINGTON INFIRMARY AND DISPENSARY.—Senior House Surgeon, also Junior House Surgeon. Salary of former £120 and of latter £100 per annum, with board, &c.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Locum Tenens Medical Officer, unmarried. Salary 4 guineas per week, with apartments, board, attendance, and washing.

WESTERN AUSTRALIA, STATE OF, MEDICAL AND HEALTH DEPARTMENT.—Medical Officer to the Central Board of Health. Salary £400 per annum.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry provided.

WILTS COUNTY COUNCIL GENERAL EDUCATION COMMITTEE.—Senior and Junior Medical Inspectors of School Children. Salary of former £400 and of latter £250, with travelling expenses in each case.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Also Two House Surgeons. Salary of former £100 per annum, and of two latter £80 per annum, with board, lodging, and laundry.

The Secretary of State for the Home Department, Whitehall, S.W., gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for ophthalmic cases for County Court Circuits Nos. 13 and 18.

Births, Marriages, and Deaths.

BIRTHS.

GREENWOOD.—On May 9th, at "Reigate," Lower Park-road, Loughton, the wife of M. Greenwood, jun., M.R.C.S., L.R.C.P., of a son.

HARRIS.—On May 9th, at Wimpole-street, the wife of Dr. Wilfred Harris, F.R.C.P., of a son.

HAYMAN.—On May 8th, at "Harewood," Narborough-road, Leicester, the wife of S. Clifford Hayman, F.R.C.S., of a son.

STEAD.—On April 26th, at Ulcombeden, Hawkhurst, the wife of Chas. Clement Stead, M.B., of a son.

MARRIAGES.

BAKER—PARROTT.—On April 29th, at St. Mary's, Hayes, F. C. J. Baker, M.R.C.S., L.R.C.P., to Stella Caroline, younger daughter of E. J. Parrott, M.R.C.S., L.R.C.P., of The Thorn, Hayes, Middlesex.

DEATHS.

BODDY.—On May 6th, at Bloomfield-terrace, Sloane-square, Clarinda Boddy, M.D.

CHAFFERS.—On May 4th, at Abbotsrood, Grange-over-Sands, Edward Chaffers, F.R.C.S. Eng., J.P., aged 67 years.

THOMSON.—On May 7th, at Brisbane, Queensland, John Thomson, M.B., C.M. Edin., aged 61 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PUBLIC INSTRUCTION CONCERNING CLEAN MILK.

THE county council of the West Riding of Yorkshire, in the early part of the year 1907 in conjunction with the county council of the East [illegible] ghs of Bradford, Hull, Leeds, [illegible] mmittee to inquire into the [illegible] of the milk supply of the county. The report of the joint committee has been published, [illegible] practical investigation by Dr. [illegible] tary committee has expressed [illegible] the interests of the public *health to disseminate, as widely as possible, the information* which it contains. The committee has accordingly prepared three leaflets, which we have received and which are based upon the report, for distribution amongst (*a*) housewives; (*b*) farmers and dairymen; and (*c*) retail milk-sellers, and is requesting the borough councils to undertake to distribute the leaflets (*b*) and (*c*) to persons registered by corporations under the Dairies, Cowsheds, and Milkshops Orders and liable to inspection These leaflets are to be supplied free of charge for this purpose and the leaflet (*a*) is to be placed on sale for the benefit of any local sanitary authority desiring to distribute it, at a very moderate price, from Messrs. Sanderson and Clayton of Wakefield. It is much to be hoped that the authorities in question will give their full support to the scheme. The practical application of information conveyed by scientific reports is an encouraging sign of progress. Only too often in the past have such reports been received and forgotten. The leaflets which have been sent to us are written in plain and simple language and printed in clear type They may well prove useful sanitary tracts throughout an area wider than the Ridings.

MEDICAL WOMEN REWARDED FOR GALLANTRY.

His Highness the Nizam of Hyderabad has graciously commanded that Miss Pinto and Miss Corea, house surgeons at the Victoria Zenana Hospital, be promoted to the grade of senior assistant surgeon in recognition of their gallant behaviour during the late disastrous flood. It will be remembered that these ladies refused to leave their charges, at their imminent personal risk, and instead helped to convey them to the point of comparative safety as the waters rose. The promotion involves a substantial increase of salary. His Highness *has further ordered that all other employees of the hospital who were* on duty on the night of the flood be recompensed with a gift of three months' salary in addition to half the value of any losses they sustained. We learn from the *Times of India* that this act of liberality has been greatly appreciated in the principality.

DERMATITIS DUE TO VANILLA.

To the Editor of THE LANCET.

SIR,—A Hindoo boy, aged 18 years, after handling ripe vanilla pods, [illegible] bsequently for [illegible] a swollen face [illegible] g them. His [illegible] were almost covered with minute discrete pustules, which gave rise to intense itching. His temperature was 101° F. He complained of frequency of micturition with pain or feeling of heat when micturating, which act produced only small quantities of urine

Some other coolies doing the same work, which involves handling the ripe pods of vanilla, have been affected in the same way, but not so *severely. I can find no account in any book I have of vanilla causing* an eruption.—I am, Sir, yours faithfully,

R. F. HILEY, M R.C.S. Eng., L.M.S S A. Lond,
Medical Officer to South Coorg Medical Fund.

Sidapur, Coorg, India, April 14th, 1909

*** Dermatitis among workers in vanilla has been noted before (see THE LANCET, Feb. 16th, 1907, p. 463, and Nov. 24th, 1906, p. 1478), but the exact cause is not settled The eruption has been variously attributed to the principles of the vanilla, to the moulds with which the pods are sometimes covered, and to the treatment applied to the pods to remove such moulds.—ED L.

YELLOW FEVER IN BRITISH HONDURAS IN 1905.

Sir Rubert Boyce's recent visit to Barbados at the request of the C[illegible] report, though printed at the time, was apparently not circulated in this country, nor were *copies, seemingly, sent to the press* This omission was, no doubt, owing to the fact that the report was the property of [illegible] G[illegible] of its p[illegible] only. [illegible] copies for distribution, since one has recently reached us. It is, we think, a matter for regret that this report was not more widely made known when it was first printed. For at that time the text-books and works of reference did not contain full and detailed information concerning the mode of propagation of this dreaded disease, nor did they give a full account of the new methods which scientific observations had shown to be the best adapted for checking its spread. It is true that a small pamphlet was prepared in 1906 by Sir Rubert Boyce and sold for 1*d.*, containing a brief popular description of yellow fever and the way to prevent it. But this small pamphlet was evidently intended for widespread circulation among the West Indian Colonies, in order to familiarise the public with the chief points concerning the malady and its prevention. Such a pamphlet, it is evident, could not take the place of the detailed report in bringing the newly acquired information to the notice of the medical profession in this country. Since 1906 the knowledge of yellow fever has increased, and some of our text-books and works of reference have already been brought up to date, so that the collected facts and opinions which Sir Rubert Boyce put forward in 1906 have lost some, at least, of their novelty and freshness. Still, there is much in the report, as now issued, to interest and instruct the student of modern tropical medicine, notwithstanding that its somewhat belated distribution has, we fear, detracted from its former value.

GERMAN HOSPITALS.

A FREQUENT correspondent writes. "The number of hospitals in Prussia seems to have been rapidly increasing, for while in 1884 there were only 1155, there were 2411 in 1906 The number of beds at the latter date was 138,016 and the number of in-patients 1,036,161, of which 636,149 were males and 400,012 were females. In Saxony there has also been a considerable increase both in the number of hospitals and in the beds, though the gain is not so marked as in Prussia. Thus 93 hospitals with 5374 beds in 1887 increased to 145 hospitals with 10,439 beds in 1906. The Berlin municipal authorities have raised the daily charges which have to be paid by local and parochial bodies sending patients to 3 marks for Berliners and 3 50 marks for those from a distance. Children and adults have to be paid for at the same rate. Other German hospitals are also raising their charges, thus at Kiel 3 50 marks have to be paid for local patients and 5 marks for others."

A NEW DISINFECTOR FOR TELEPHONES.

WE have received from the Telephone Disinfector Company (Messrs. Baer, Bechmann and Co), of 55, Hatton garden, London, E.C., a sanitary appliance for the mouthpiece of telephones. It consists of a metal collar fitting by a spring over the mouthpiece and having hinged to it a disc which forms a cover for the mouthpiece. The central portion of this disc is covered with celluloid on its outer side. When the telephone is to be used this cover or lid is opened by touching a small metal catch, and it is closed as readily by the pressure of the finger and thumb. [illegible] and projects into the mouthpiece of the telephone. It is filled with a brownish crystalline solid substance which has a strong odour of thymol and which impregnates the interior of the mouthpiece, when the lid is closed in the intervals of its use, with a volatile and aromatic disinfectant. Refill cakes of the antiseptic substance are supplied with the instrument We have not conducted any bacteriological experiments to test the efficacy of the appliance, but from the thorough manner in which an obviously effective antiseptic is [illegible] rior of the mouthpiece we consider [illegible] protecting the users of telephones [illegible] blic instruments should be safeguarded from the saliva of their consumptive and syphilitic patrons, and we have seen no apparatus that appears better adapted for the purpose than this. We can also testify from a trial of the appliance that its use does not add to the inconveniences of telephonic communication.

NORTH INDIA SCHOOL OF MEDICINE FOR CHRISTIAN WOMEN.

THE annual meeting in support of the North India School of Medicine for Christian Women (Ludhiana, Punjab) was held on May 5th in the Trinity Church House, Great Portland street, London, W., Colonel Parry Nisbet, C.I E, being in the chair The fourteenth annual report showed that in every department there had been a steady advance during the past year At the hospital 19,671 out-patients had paid 59,800 visits. The average number of beds occupied had been 76, and during the past year 1100 operations had been performed. The number [illegible] who [illegible] spital, [illegible] work, which she said was highly appreciated by the authorities in India. She hoped that one result of her speech might be a much needed increase in the medical staff, which at the present moment was sadly overworked. From intimate knowledge of what was going on, both in the hospital and in the school, the speaker was convinced that the work at Ludhiana presented great opportunities from a medical and from a Christian point of view. The patients came from far distances, even from beyond Lahore. Not only was this true of the poor and ignorant, but even high caste Hindu women had sought medical treatment. As far as was possible, Mohammedans and Hindus were separated in the hospital, and there were also separate departments for medical and surgical cases. Dr. Edith M. Brown, under whose superintendence the work is conducted at Ludhiana, was stated to be exercising a great influence for good among the high caste Hindus in the city. The institution was more than an ordinary mission hospital. It was also an important training place for native Christians whose subsequent work in different parts of the land was of the greatest importance and value. In the training school there were from 40 to 50 students, who were most attentive to their studies. Special attention was called to the need of a large steriliser in the hospital, and in conclusion emphasis was laid on the importance of training girls to go to all parts of India. The work had been repeatedly commended by the Government Inspector-General, but money and workers were needed. At least five or six fully qualified medical officers were imperatively necessary if the institution was to do all that might be accomplished. Dr. Heywood Smith spoke of the missionary aspect of the work, and subsequently Colonel Parry Nisbet, who has had a long knowledge of Ludhiana, expressed his hearty sympathy with the work of the school and hospital. He had often, he said, known medicine to be the handmaid of Gospel teaching. He very cordially endorsed the appeal which had been made for urgently needed financial support and personal service. Miss Mabel W. Brown, 91, College-road, Bromley, Kent, it may be added, is the secretary of the institution.

◆

Feverish.—We recommend our correspondent not to bring the matter before the district council, at any rate until he has been resident in the district longer. The arrangement which he describes is open to criticism as being unfair to the general practitioner, but, on the other hand, the district council is responsible to the public and naturally desires therefore to have the hospital managed by an officer of its own. As the hospital is not at all large, and according to our correspondent "is more often empty than not," the number of fees which the medical officer receives, a part of which is undoubtedly contributed by our correspondent, can be but very small. The second point—viz., that the medical officer of health by being constituted "a fever doctor" may obtain unfair opportunities for increasing his private practice at the expense of his professional brethren—is an abiding grievance under the Notification of Diseases Act since that Act came into force. We are happy, however, to say that the number of cases where this abuse can be shown to exist grows smaller and smaller.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—Arthur Whitfield, E. G. Graham Little): at 5 P.M.

Dr. Louis Wickham: Demonstration of Radium Therapeutics.

FRIDAY.

EPIDEMIOLOGICAL SECTION (Hon. Secretaries—W. H. Hamer, G. S. Buchanan): at 8.30 P.M.

Papers:

Dr. John Brownlee: Certain Considerations on the Causation and Course of Epidemics.

Mr. M. Greenwood, jun.: The Problem of Marital Infection in Pulmonary Tuberculosis.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Reception by the President. 9 P.M., Oration:—Dr. H. D. Rolleston: On the Classification and Nomenclature of Diseases, with Remarks on Diseases due to Treatment. Music, Smoking, &c.

CHELSEA CLINICAL SOCIETY, Chelsea Dispensary, Manor-street, King's-road, S.W.

TUESDAY.—8.30 P.M., Annual General Meeting. Election of Officers for the ensuing Session, 1909-10. Dr. Vivian Orr: Intra-spinal Anæsthesia in Surgery.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

WEDNESDAY.—8.30 P.M., Major H. W. Grattan, R.A.M.C., and Captain A. L. A. Webb, R.A.M.C.: Demonstration of the Method of Preparing and Standardising Typhoid Vaccine. (Postponed from May 12th).

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., Adjourned Discussion on Beri-Beri. Communicated by Dr. A. T. Stanton: A Paper on Beri-Beri of Historic Interest, written by Dr. J. Bontius, of Batavia, in 1629.—Captain C. A. Gill, I.M.S. (Lahore): A Note on the Epidemiology of Pneumonic Plague.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Dr. A. Morison: The Treatment of Cardiac Pains.

TUESDAY.—4 P.M., Dr. R. Hutchison: Clinique (Medical). 5.15 P.M., Lecture:—Dr. G. E. Herman: Some Points relating to Ectopic Pregnancy.

WEDNESDAY.—4 P.M., Mr. M. Collier: Clinique (Surgical). 5.15 P.M., Lecture:—Sir Thomas Oliver (Newcastle): Some Unusual Features of Lead Poisoning.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. Mackenzie: A Demonstration of Graphic Methods for the Investigation of Cardio-Vascular Conditions.

FRIDAY.—4 P.M., Mr. Stuart-Low: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Moullin: Gynæcological Cases.

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medic[illegible] Clinics. X Rays. 2.30 P.M., [illegible] eases of Women. 4 P.M., Mr. [illegible] 5 P.M., Lecture:—Dr. Low: I[illegible] Tropical Medicine.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Cole: Melancholia and Allied Conditions.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Lecture: —Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. Harman: How to Test the Vision of an Injured Eye—Workmen's Compensation.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. Mr. Harman: Diseases of the Eyes. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M., Demonstration:—Dr. G. N. Meachen: Selected Skin Cases.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcolog[illegible] (Dr. A. E. Giles). [illegible] rgical Clinics:—Medical Out-patien[illegible] (Dr. [illegible] (Mr. H. W. Carson); X Rays [illegible] G. P. Chappel). 4.30 P.M., [illegible] Pulmonary Emphysema.

FRIDAY.—10 A.M., Clinic:—[illegible] (Mr. H. Evans). 2.30 P.M., Operations (Mr. [illegible] al Out-patient (Dr. A. G. Auld), [illegible] 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

2.15 P.M., Special Lecture:—Dr. R. Bradford: Hemiplegia.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.

TUESDAY.—5 P.M., Clinical Demonstration: Dr. J. Mackenzie.

WEDNESDAY.—3 P.M., Clinical Demonstration: Dr. F. Palmer.

THURSDAY.—3 P.M., Clinical Demonstration: Dr. T. D. Savill.

FRIDAY.—2 P.M., Clinical Demonstration: Dr. P. Stewart. 5.30 P.M., Clinical Demonstration: Dr. E. Macnamara.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Mr. I. G. French: Tracheoscopy, &c.
FRIDAY.—3.45 P.M., Lecture:—Dr. W. Wingrave: Clinical Pathology.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (17th).—London (2 P.M.), Thomas's (3.30 P.M.), St. George

ond street (9 A.M.),

Ormond street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 13th, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain fall	Solar Radio in Vacuo	Maximum Temp Shade	Min Temp.	Wet Bulb	Dry Bulb	Remarks.
May 7	30.20	E.	...	119	63	49	48	55	Fine
" 8	30.15	E.	...	113	63	46	47	55	Fine
" 9	30.02	E.	...	119	64	41	45	55	Fine
" 10	30.04	N.E.	...	108	58	46	45	49	Fine
" 11	30.19	S.W.	...	111	70	43	45	61	Fine
" 12	30.14	S.W.	...	119	72	49	52	63	Fine
" 13	30.28	N.E.	...	115	55	40	42	47	Fine

During the week marked copies of the following newspapers have been received:—*Egyptian Daily Post, Manchester Courier, Scarborough Post, Heckmondwike Herald, Dundee Advertiser, Daily Mail, Yorkshire Post, Daily Chronicle, Joint Stock Companies' Journal, Ormskirk Advertiser, Glasgow Weekly Citizen, Daily Mirror, Morning Advertiser, Electricity, South Wales Daily Echo, Investors' Gazette, The Observer, Blackpool Gazette, Irish Grocer, Derbyshire Courier, &c.*

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An Oration
ON
THE CLASSIFICATION AND NOMENCLATURE OF DISEASES, WITH REMARKS ON DISEASES DUE TO TREATMENT.

Delivered before the Medical Society of London on May 17th, 1909.

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MR. PRESIDENT AND GENTLEMEN,—In attempting to discharge the honourable trust laid upon me I shall venture on some considerations on the classification and nomenclature of diseases, and on the diseases directly due to treatment. Definitions are a weariness unto the flesh and the framing of them an intellectual exercise which necessarily often results in a compromise. When a disease (absence of ease) is mentioned we mentally distinguish it from a symptom and from a group of symptoms by the reservation that a disease is a departure from health due to a definite cause, whereas the designations symptom and symptom-complex, or a recognised grouping of symptoms, admit that the underlying cause is not constant. As our knowledge of the causation of disease becomes more complete what was at first regarded as a disease becomes a symptom, and logically a number of recognised diseases are only entitled to be called symptom-groups. Of the two essentials that go to make up our conception of a disease, (i.) the clinical aspect and (ii.) the etiological factor, the first is still the more prominent in our minds. For example, infection with the *B. typhosus* may occur without producing the symptoms of typhoid fever; such a condition as typhoidal osteitis without evidence of previous illness obviously cannot be called typhoid fever. It, however, seems doubtful whether at the present day the word "disease" can be rigidly confined to a recognised group of symptoms due to precisely the same cause, for if this criterion be maintained peritonitis, inasmuch as it may be due to various microbes, is not a specific disease. For ordinary purposes it is at present convenient to retain as diseases what are *really group-diseases; a group-disease* is a characteristic collection of symptoms which may be due to any one of a group of allied organisms. Thus the following allied bacteria, *Bacillus fæcalis alcaligenes*, *B. typhosus*, *B. para-typhosus A*, *B. para-typhosus B*, *B. coli*, *B. paracoli*, have been considered to be capable of producing in man disease indistinguishable from typhoid fever (Stratham).[1] *In the last edition of the official "Nomenclature of Diseases"* [illegible] that paratyphoid fever is now becoming recognised, but the diagnosis can only be made on bacteriological evidence.

Similarly with regard to another common disease the use of the word influenza, of Italian origin, for a familiar train [illegible] as the refuge of those [illegible] or ingenious to arrive [illegible] doubt, much truth in this, but there are practical difficulties in taking up the standpoint that only those cases shown to be infected with Pfeiffer's *Bacillus influenzæ* are entitled to this designation. For it has been proved that among cases clinically alike some show this organism, whilst others do not. In 1905 Bulloch[2] stated that the *B. influenzæ*, common in the early nineties," had become rare and that recent epidemics were caused by various organisms, especially the *Micrococcus catarrhalis*, and that what is clinically called influenza is not one disease but a series of diseases. Lord[3] compared the bacteriology of an epidemic of influenza (1907–08) with a series of sporadic cases in an inter-epidemic period (1902–04) at Boston and found that *B. influenzæ* was present in a higher percentage (25 per cent.) of the sporadic cases than of the epidemic (15 per cent.). He suggested that the cases with *B. influenzæ* should be called "influenza vera," and those clinically alike but bacteriologically different "influenza nostras." This again is logical, but it cannot yet be put into universal practice. No doubt in time the conditions formerly recognised as compact diseases, such as peritonitis, enteric fever, and influenza, will be established in more elaborate nosology as *genera* and will be divided up into their several species. The time, however, for this has hardly arrived, and in practice we must still be content to retain the familiar terms.

The recent multiplication and differentiation of new diseases make it difficult to keep up with modern nomenclature and contrast in a striking manner with the leisurely progress of medicine in the early part of the last century. In 1822 the learned nosologist, Mason Good, secretary of this society and Orator in 1808, says in the preface to his four-volumed work, "On the Study of Medicine": "Whilst a few species of diseases are no longer to be found which are described by earlier writers, a few seem to have supplied their place, which are comparatively of modern origin."

ON THE CLASSIFICATION OF DISEASES.

The classification of diseases more nearly concerns readers or writers of textbooks than those solely engaged in the active practice of their profession; but it is important in connexion with the Registrar-General's returns and of some interest to us, for by the success or failure of our classifications it is possible to arrive at some conclusion as to the extent of our knowledge of medicine and so to estimate how far we are from finality in this subject as compared with sciences such as botany and zoology. There is also another, though perhaps somewhat remote, advantage that might result from the attempt to classify diseases on scientific lines resembling those in the more exact sciences. For just as astronomers and chemists have been able to indicate that a star or an element with certain properties should appear or exist, though at the time unknown, so by employing systematic methods we might anticipate, or, at least, be on the look out for, new forms of disease. Thus, by applying to the consideration of other ductless glands our knowledge that absence of thyroid secretion (myxœdema) and excessive (and? altered) secretion of the thyroid gland (exophthalmic goitre) give rise to diseases, we should be on the watch for a disease due to excessive activity of the islands of Langerhans in the pancreas, which would have the same relation to pancreatic diabetes that exophthalmic goitre has to myxœdema.

The first attempt to classify diseases appears to have been made in 1680 by Felix Plater, who took symptoms as the basis for his classification. About this time Sydenham seems to have suggested that diseases should, like plants, be arranged according to their external features. But it was not until Linnæus showed the way that the hint of the English Hippocrates was taken, and then an enormous amount of labour was expended on elaborate attempts to classify diseases on the lines of the natural sciences. These nosologies—now almost entirely forgotten and buried in the dust of libraries—tabulated diseases by Greek or less often Latin names, the majority of which are quite unfamiliar to modern ears. It is almost pathetic to consider the amount [illegible] work done by the once famous [illegible]), Vogel (1772), MacBride (1772), [illegible] 1810). The importance attached [illegible] a hundred years ago is shown, not only by the number of rival systems, each bristling with criticisms of those already extant, but by the publication of distinct nosologies by such distinguished men of science as Linnæus, Erasmus Darwin, and Thomas Young (1813), the last of whom was described on the inscription on his monument in Westminster Abbey as "alike eminent in almost every department of human learning."

The best known nosological classification was that brought out in 1785 by William Cullen, professor of medicine at Edinburgh. This work, entitled "Synopsis Nosologiæ Methodicæ," was based on a wide acquaintance with previous attempts on the same lines and, evidently stimulated by the success obtained by Linnæus in the natural sciences, aimed at simplifying a difficult subject. Cullen divided diseases into systematic and local, his first three classes, (1) pyrexiæ, (2) neuroses, and (3) cachexiæ, being systematic or general, and the fourth class locales. Each of these four classes was subdivided into orders and these again into sections, genera, and species. Thus in the class fevers under Order III., exanthemata, the genus variola has two species, discrete and confluent. Subsequent nosologists—Young and Mason Good—severely criticised Cullen's confusion of genera and species. Cullen fully recognised the limitations of methodical nosology, and admitted that he could not surmount some of the difficulties by appending, after the four classes, a catalogue of diseases which for various reasons had not been allotted a place in the foregoing nosology. He, however, not unnaturally argued that, just as the earlier attempts at methodical classification in the natural sciences, particularly in botany by Ray, were unsatisfactory, but by subsequent elaboration became successful, so in course of time a perfect nosological classification should be attained.

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[1] Stratham: Journal of the Royal Army Medical Corps, 1908, vol. xi., p. 351.

[2] Bulloch: Brit. Med. Jour., 1905, vol. i., p. 1044.

[3] Lord: Journal of Medical Research, Boston, 1908, vol. xix., p. 2.

South of the Tweed the most important work on the subject was probably that by John Mason Good, M.D., F.R.S., a Fellow of this society, and one of the most encyclopædic and prolific medical writers of the past, who, as it seems to me, has been undeservedly somewhat forgotten. He has, indeed, sometimes been thought to be an American, because on the title-page of his works he describes himself as Mem. Am. Phil. Soc., and F.L.S. of Philadelphia. He was not on the staff of any hospital, but was in general practice in London, and is said to have translated Lucretius in the course of his walks to his patients. His "Physiological System of Nosology, with a Corrected and Simplified Nomenclature" (1817), which met with the approval of the Royal College of Physicians, was based on symptoms, as were the previous classifications of Sauvages, Linnæus, and Cullen. He considered this to be the only method worthy of attention, and remarks epigrammatically that "of the seat of diseases we often know but very little; of their causes far oftener still less." In this connexion it is interesting to note that after much discussion the committee of the first official nomenclature of the Royal College of Physicians (1869) decided that the proposed classification should be based upon anatomical considerations. Good also wrote a "Study of Medicine" in 1822 in four volumes which, in a posthumous fourth edition (1834), was expanded into five volumes under the supervision of Samuel Cooper, a well-known surgeon to University College Hospital. The classification given in this work differs much from that of Cullen. Good gives six classes:—(I.) Cœliaca; (II.) Pneumatica, Diseases of the Respiratory System; (III.) Hæmatica, Diseases of the Sanguineous Function, including the specific fevers, visceral inflammations, suppurations; (IV.) Neurotica, Diseases of the Nervous Function; (V.) Genetica, Diseases of the Sexual Function; and (VI.) Eccritica, or Diseases of the "Excernent" Function; included under this last head are corpulency, dropsy, tumours, and skin diseases. Each class has orders, genera, and species, as shown by the first page of the table of classification.

Class I. Cœliaca.
    Diseases of the Digestive Function.
  Ord. I. Enterica.
      Affecting the Alimentary Canal.
    Gen. I. Odontia.
        Misdentition.
      Spec. 1. O. Dentitionis.
          Teething.
        2. Dolorosa.
          Toothache.
        3. Stuporis.
          Tooth edge.
        4. Deformis.
          Deformity of the teeth.
        5. Edentula.
          Toothlessness.
        6. Incrustans.
          Tartar of the teeth.
        7. Excrescens.
          Excrescent gums.

This is sufficiently elaborate but his original nosology further gave subheadings of the species, for example:—

O. Dentitionis—
  (a) Lactantium; cutting the teeth or shedding teeth.
  (b) Puerilis; cutting th[illegible]
  (c) Adultorum; cuttin[illegible]
  (d) Senilium; cutting [illegible]

James Copland, *Orator* in 1822, published in the same year an essay on "The Physiology and Pathology of Certain Parts of the Animal Economy, usually denominated the Ganglionic Class of Nerves" (the sympathetic system), in the course of which he arranges diseases in four classes, each divided into orders, genera, and species. The four classes are: (I.) Diseases which consist in a diminution in the natural energy with which the ganglionic functions of an organ or part are performed. (II.) Diseases due to a morbid increase of the ganglionic functions of an organ or part. (III.) Diseases consisting, at one period of their course, of a degree of excitement or reaction of the influence of the ganglionic system, either in an individual organ or texture or more or less throughout the body. (IV.) Disorders which cannot be exclusively arranged under any one of the preceding classes, but most frequently are the consequences of one or more of the diseased actions by which these classes are characterised. Copland's article in the *London Repository, Monthly Journal, and Review* (1822, vol. xvii., p. 369), of which he was the editor, was an abstract of a more detailed exposition which was promised for future publication, but apparently did not see the light. This scheme of nosology has attracted little or no attention, but it is of interest as an early example of the tendency to explain all diseases by the nervous system.

These elaborate classifications were an academic exercise rather than of practical utility. For Dr. William Farr, the acknowledged founder of the science of vital statistics, who compiled the statistics at the General Register Office, Somerset House, from 1838 to 1879, attempted to arrange the death-returns first under Cullen's and later under Mason Good's classifications, but found it impossible to return the diseases under the classes and orders of the nosologies.[4] Interest in nosological systems appears to have died a natural death after Mason Good's works; and systematic works such as Addison's and Bright's "Elements of Practical Medicine," of which the first and only volume, by Addison, was published in 1839, do not appear to deal with the subject. Since then nosological problems have not appealed to English-speaking nations, but in France in 1907 Lancereaux and Paulesco[5] presented to the Académie de Médecine a scheme for the classification and nomenclature of diseases which was referred to a commission[6] who reported favourably and proposed the following somewhat modified classification based purely on etiology:—

1. Diseases caused by physical agents or Physinoses (νόσος, Disease)—
    E.G. Thermonoses = diseases caused by heat.
      Photonoses = diseases caused by light.
      Electronoses = diseases caused by electricity.
2. Diseases caused by chemical agents or Cheminoses—
    E.G. Saturnism, Iodism.
3. Diseases caused by living agents or Bionoses.
    Divided into the animal and vegetable, the latter of course containing bacterial diseases.
4. Diseases caused by moral and intellectual agents or Psychonoses.
5. Diseases caused by nutritional factors or Trophonoses.
    This class, adn[illegible] of the two diatheses scro[illegible]h, appearing under the [illegible]ers a very large field—viz., diabetes, gout, chronic rheumatism, and most tumours.

There is, it must be confessed, a certain fascination about the attempt to fit each disease into its appropriate niche in a formal classification; it recalls our struggles with the "dissected puzzles" of one's childhood. But at present our knowledge is not sufficiently complete to allow a permanent classification to be constructed. In fact, it is probably more difficult now to attempt such a classification than it was in Cullen's time, for though knowledge has advanced it has thereby made our ignorance more obvious, and we realise that any scheme of classification adopted for convenience and practical purposes may almost any day be disturbed by a new discovery.

As the result of research and analysis new diseases are constantly being described, some of which will take an established place in the list of diseases, whereas others are really only aberrant forms of recognised conditions. At the same time, as the outcome of broader knowledge, some conditions previously regarded as distinct are being shown to [illegible] morbid process [illegible] pathological [illegible] distinct from hereditary ataxia but only a form of it; just as tabes and general paralysis are two local divisions of a single morbid process (Mott). Or, to take a comparatively old example, granular kidney, failing heart, and cerebral hæmorrhage are the peripheral results of the general pathological process which begins as a metabolic disturbance and gives rise to an increased blood pressure and so to arterial sclerosis.

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[4] *Vide* letter to the Registrar-General by Dr. John Tatham in the Sixty-fourth Annual Report of the Registrar-General of Births, Deaths, and Marriages in England and Wales, 1901, p. 30.

[5] Lancereaux et Paulesco: Bulletin de l'Académie de Médecine, Paris, 1907, vol. lvii., p. 150.

[6] [illegible] Révision de la Nomenclature des [illegible]x, Blanchard, Jungfleisch, Reclus,

Again, the various manifestations of well recognised infections, such as tuberculosis and syphilis, in different parts of the body are grouped together in some systematic works on medicine, and the same process might be adopted with regard to pneumococcal, gonococcal, and other infections. This is a logical method of classification, but it can scarcely be adopted in its entirety, for it is often more convenient to classify diseases according to the part of the [illegible] to the underlying cause; thus [illegible] more conveniently classified as [illegible] various causes than as a local [illegible] ith pneumococci, streptococci, *B. coli*. Moreover, a strictly etiological classification might be difficult in cases of mixed infection.

In some instances it is difficult to classify a disease in any [illegible] t present, [illegible] based on [illegible] iderations than to attempt to force all diseases into a rigid scheme, [illegible] ogical factors or on the [illegible] whatever may be said about its limitations, indeed shows a very open mind in the classification adopted; the divisions are: 1. Infective diseases. 2. Intoxications. 3. General diseases not included in the two preceding groups (the anæmias, gout, diabetes, osteo-arthritis). 4. General morbid conditions incident to various parts (malformations, new growths, &c.). And the main part of the work: 5. Diseases of the various systems of the body (nervous system, circulatory, &c.). Some of these groups are, so to speak, repositories into which diseases of doubtful etiology can be left until we have an accurate and exhaustive knowledge of the real causes at work.

The bearing of the classification of diseases on the relations of physicians and surgeons.—Lastly, a few words may perhaps be devoted to a consideration of the change which new methods of treatment have gradually brought about in the broad classification of diseases into those which are medical and those which are surgical. In general practice this distinction is not of quite the same moment as it is in hospital practice and *personnel*. It worked well in the days when surgery could be accurately described as "external medicine," but at the present time it leads to a wholly unnatural division in the treatment of disease. In these [illegible] should be able to [illegible] tart to finish; this [illegible] ists, who though mainly physicians in name are highly skilled surgeons in deed; and much the same is true as regards laryngologists. But the general physician who diagnoses a cerebral tumour, an abscess in the lung, or a renal calculus, is obliged, by his want of equipment, to call on his surgical colleague to complete the cure. The natural outcome of this unsatisfactory state of affairs is that at the present time younger men mainly follow the attractive rewards of surgical practice which now deals so successfully with many diseases formerly within the province of the physician. The experience gained by operative measures so increases the surgeon's powers of diagnosis that he may declare, with the humour which conceals a great truth, that "a surgeon is a physician who can use his hands," and even act on the maxim "Chirurgus sum: nihil medicum a me alienum puto."[7] Not only has the physician's field of activity thus become narrowed but his function as a diagnostician is increasingly restricted by the importance of bacteriological tests and skiagraphy, for the accuracy and value of which he must depend on experts. Further, immunisation has come to take a prominent part in treatment other than purely surgical, and Sir Almroth Wright has predicted that "the physician of the future will be an immunisator"; it must, therefore, be admitted that the pure physician, should he still survive, will be in a parlous plight between the surgeon and the deep sea of bacteriology. The remedy for this, it would seem, is, as foreshadowed by Sir Clifford Allbutt in the preface to his address, "On the Historical Relations of Medicine and Surgery," delivered at St. Louis in 1904, that the existing spheres of influence should be rearranged; [illegible] physician and the gener [illegible] erged and reappear as [illegible] wards for special parts of t [illegible] charge of the neurological [illegible] mpetent to diagnose and treat tuberculous meningitis, a cerebral abscess, a fractured spine, and neurasthenia; the medical officers in charge of the wards for abdominal diseases should be trained to operate when required, and in like manner the medical officers responsible for intrathoracic disease, with which might be combined disorders of the blood and of the ductless [illegible] their cases. [illegible] ch a radical [illegible] ssion, and it [illegible] dually. In [illegible] that present [illegible] ique, would only slowly be replaced by their competent successors; this is undeniable, but in the period of transition the active association of operating assistants would enable the hospital routine to be carried on. Difficulties would also arise in connexion with the allotment of some forms of disease, though in course of time a satisfactory arrangement would, no doubt, be arrived at after due consideration. Possibly surgery of the extremities and removal of superficial tumours, such as carcinoma of the breast, might, together with orthopædics, form a special group; diseases of the kidneys might be associated with diseases of the male genito-urinary organs and gynæcology respectively in the two sexes, and there might well be a department for fevers and for conditions of doubtful diagnosis. The out-patient departments would probably have to be less specialised, so as to insure a general education both for the medical officers and for students. This may seem visionary, but, as has been said, the principle is already in practice in the case of gynæcology and obstetrics.

ON THE NOMENCLATURE OF DISEASES.

The nomenclature of disease is an interesting subject, but in the hurry of the day's work there is little or no time to consider the meaning or the origin of the names of the diseases we are attempting to treat. The nomenclature exists for practical purposes and is convenient but not consistent. Our official nomenclature of the Royal College of Physicians of London undertaken in 1857 was first published in 1869 and is therefore of comparatively recent date. The advantages from a statistical point of view of such a standard nomenclature are obvious; indeed, it was to meet the need felt by the medical department of the army that the construction of such a nomenclature was first mooted. A very definite advantage which should result from such an official pronouncement is the gradual extinction of the numerous synonyms for diseases which often serve only to confuse. By the greater uniformity and accuracy of nomenclature thus obtained conclusions of real value are rendered possible as the result of statistical compilations. The names of diseases have been arrived at in various ways. Some refer to the cause of the disease—for example, alcoholism; some recall t [illegible] c [illegible] c [illegible] does not attempt to describe or explain its nature.

To refer to the last category first. In some cases the popular or folk names of diseases, such as "mumps," "influenza," or "scarlatina," have passed into official use and nomenclature. The name is then merely a label, and its meaning and origin may become obscured and almost forgotten in the dust of years; for example, there is room for some discussion as to the exact derivation of "rickets." Names of this kind, however, are so identified with our conception of the disease that any change is undesirable; they are proper and not descriptive names, and though they have no pretension to scientific exactitude, there is the distinct advantage that they do not pledge us to any special hypothesis. With so many new titles and forms of disease it is a comfort to retain the familiar names and to speak of "measles" instead of "morbilli," and of "German measles" in place of "rubella" or "rötheln."

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[7] Vide The Annual Oration for 1903, Transactions of the Medical Society of London, 1903, vol. xxxi., p. 332.

Among the names employed as labels are those named after the observers responsible for their recognition. Thus Bright's, Addison's, and Hodgkin's diseases, all emanating from one metropolitan hospital, Guy's—an unparalleled achievement—are fully accepted. In passing, it may be mentioned that in quite recent years the terms "Addisonism" and even "Brightism" have been suggested to describe cases which approach but do not quite correspond to Addison's and Bright's disease. These two words, being in much the same category as "meningismus" and "peritonismus," may offend the exact thinker, though they are convenient as non-committal diagnoses. Besides doing honour to masters in medicine whose names might otherwise cease to be remembered, this pious method of nomenclature recalls the history of the disease and in most cases serves as a guide to the original description of the disease. It seems only right and proper that, if retained, the discoverer's name should be religiously confined to the condition which he described, and not extended to cover some allied and modified condition, or applied to part only of what he described. At the present time there is a decided tendency to restrict the title "Bright's disease" to those medical diseases of the kidney which are regarded as nephritis—namely, acute nephritis, the large white and the contracted white kidney, and to exclude from the category the red granular kidney and the lardaceous kidney. Reference to Bright's paper and plates in Vol. I. of the "Reports of Medical Cases" (1827) shows that with the forms of nephritis just mentioned he included the red granular kidney and, though the words lardaceous or amyloid are not used, the lardaceous kidney. When the original author's name comes to be applied to a condition different from that which he described, it is in most instances time to abandon the patronymic and to employ some suitable synonym if this is ready to hand. It must, however, be admitted that there is something to be said for the use in certain circumstances of the describer's name for incomplete examples of the disease which he described in its most characteristic form; for example, Graves's disease is a much more satisfactory label for an incomplete case than exophthalmic goitre, qualified, to make the description accurate, by the words "without any exophthalmos or goitre."

In some instances the original descriptive title is altogether too cumbrous for ordinary practice, and as a result there is an almost irresistible temptation to substitute "Marie's disease" for "hypertrophic pulmonary osteo-arthropathy," and "Raynaud's disease" for "local asphyxia and symmetrical gangrene of the extremities." This is a point worthy of due consideration by those who have occasion to describe a new syndrome. Had it not been for Ord's suggestion of "myxœdema" for "a cretinoid state supervening in adult life in women," "Gull's disease," which indeed was put forward by Professor Osler in the third edition of his text-book (1898), would probably be in daily use. The adopted name for this disease indeed illustrates another advantage of using the discoverer's name—viz., that it does not commit us to a hypothesis of the disease which may or may not prove to be correct. For "myxœdema" implies an excess of mucin in the tissues which is not constant throughout the disease. It might be urged in favour of employing the discoverer's name for diseases, the exact nature of which is not yet clear, that it is a more or less provisional epithet pending exact knowledge, and that in course of time the name will be changed. To some extent this is coming about; the medical diseases of the kidney are as often spoken of as forms of nephritis as of Bright's disease, and "lymphadenoma" is now the official name of Hodgkin's disease.

Whilst admitting the established examples of diseases named after their describers, there is a considerable reluctance to confer this honour widely. In some instances the plunge has been made by admirers in a country other than that which produced the prophet; thus we owe the title "Addison's disease" to Trousseau, and that of "Stokes-Adams disease" to Huchard, showing that from a medical point of view the *entente cordiale* knows no restrictions of time. In some instances, indeed, the describer's name is applied to the disease only or mainly in the foreign country where the baptism occurred. Thus, in 1815, Joseph Hodgson, who was President of the Royal College of Surgeons of England nearly 50 years later (1864), described dilatation of the arch of the aorta, which he distinguished from ordinary aneurysm, and pointed out that the symptoms were those of heart disease rather than of aneurysm. This condition is known in France as "maladie de Hodgson," but in this country the use of this title would probably convey little and might even lead to the suspicion of confusion with Hodgkin's disease. In Germany infantile scurvy is commonly known as "Barlow's disease" from his full accounts of it first in the Transactions of the Royal Medical and Chirurgical Society for 1884 and again in the Bradshaw lecture of 1894. An objection often raised to the use of an authority's name for a disease is that it may do injustice to the man who really, though perhaps less publicly or fully, first drew attention to it. But it is a question whether the observer who first in point of time notes a certain association of symptoms and morbid changes, or he who more thoroughly works out the details and fully establishes the existence of the disease foreshadowed by his predecessor, deserves the most credit. Advances in medicine, as in other sciences, are seldom due to the isolated efforts of one worker; the same idea is maturing in the brains of several, and it is rare that an affection previously quite unsuspected is brought out in such a complete manner as was the malady rightly known as Addison's disease. Thus, as Bright was the first to point out, the association between dropsy, albuminuria, and renal disease was previously recognised by John Blackall. In some instances this difficulty has been solved by the compromise of blending the later describer's name with that of the original observer. In the case of both Stokes-Adams disease and Cheyne-Stokes respiration, the later and fuller account was published by Stokes. Adams's original description of heart-block in 1827 did not attract any attention until the appearance of Stokes's authoritative contribution in 1846; for this reason, or possibly for euphony, Stokes's name is often put first, although Huchard, who baptised it, called it Adams-Stokes syndrome. It is perhaps a matter for regret that the loyal efforts and distinguished name of the veteran Sir Samuel Wilks are not to be perpetuated in Hodgkin-Wilks disease as a synonym for lymphadenoma; for in 1865 he both fully described the disease and unearthed Hodgkin's original account, which lay buried in the Medico-Chirurgical Transactions for 1832.

Another objection, which, however, is not of much weight, is that an observer may be so active and distinguished that his name becomes attached to more than one disease. Thus we have Addison's disease of the suprarenal capsules, Addison's cheloid (morphœa or circumscribed sclerodermia), and Addison's (pernicious) anæmia; and on the surgical side Pott's disease of the spine, Pott's fracture, and Pott's puffy tumour of the skull, and Paget's disease of bone, Paget's disease of the nipple, and the almost forgotten Paget's "recurrent fibroid" (spindle-celled sarcoma of the subcutaneous tissues). Marie's disease, a synonym which is generally used to describe hypertrophic pulmonary osteo-arthropathy, has also been employed to denote hereditary cerebellar ataxia, spondylosis rhizomelica, and even acromegaly. The last is specially unfortunate because Marie's name is more properly connected with osteo-arthropathy, which he was the first to distinguish from acromegaly. Von Recklinghausen's disease is the name commonly employed to describe the combination of multiple neurofibromatosis, areas of cutaneous pigmentation, and molluscous tumours of the skin; but it is also occasionally applied to a combination of conditions described by him—namely, hæmochromatosis, or bronzing of the skin, cirrhosis of the liver, and of the pancreas terminating in diabetes

On questions of priority national feeling may come in and a disease may have different names in different tongues. The most extreme example of this is probably exophthalmic goitre, which has no less than seven synonyms—Basedow's, Flajani's, Graves's, Marsh's, Parry's, Parsons's, Stokes's disease. Fortunately, some of these, such as Marsh's, Parsons's, and Stokes's disease, are seldom, if ever, used.

Medical men have often described the diseases they suffered from, and in a few instances this double proprietary claim has been recognised by the name of the disease as in Thomsen's disease (myotonia congenita), and Pott's fracture, which this eminent surgeon sustained in 1756. Cruikshank the anatomist and a near relative of his both suffered from certain cerebral symptoms about [illegible] notes; the relative died first and [illegible] with care but apparently did no[illegible] necropsy. With regard to this, Sir Jonathan Hutchinson writes: "If no one has already a better name for the occurrence of sudden epileptoid attacks marked by subjective kakosmia, extreme pallor of face, and a sense of impending death I would venture to suggest that they should be called 'Cruikshank's malady.'"[8] In the case of a few extremely rare and aberrant forms of disease the patient's name has been employed as a label. Thus, Sir Jonathan Hutchinson[9] briefly designates as "Mortimer's malady" what would otherwise be described as "Lupus vulgaris multiplex non-ulcerans et non-serpiginosus" occurring in a patient of the name of Mortimer. He also mentions that Marie referred to two brothers (Hagner), who had been regarded by Erb as probably suffering from acromegaly, as being the subjects not of that syndrome but of Hagner's disease. In connexion with this method of labelling diseases we may recall the baptism of the Flexner-Harris strain of the *Bacillus dysenteriæ*, which depends on its isolation by Flexner from the stools of a patient named Harris. To name diseases after the patients is obviously unscientific, and might if it became prevalent lead to endless confusion. But at present this method of nomenclature is so little employed, and then only for extremely rare diseases which otherwise appear to require very lengthy titles, that it need not give rise to serious anxiety.

The most usual method of describing a disease is to mention the morbid change accompanying or causing the symptoms—for example, cer[illegible] category belong the diseases [illegible] which, though from the time [illegible]mous with "inflammation of," has only acquired this significance in course of years. As the derivation of this familiar suffix is hardly common knowledge, a few words on this point may perhaps be allowed. Mason Good[10] derived *ιτις* from *ἴτης*, meaning hasty, headlong, and attempts to explain its applicability by the sense of "increased and impetuous action" which it conveys. A much more satisfactory derivation and account were given by Dr. T. Buzzard[11] who, twenty years ago, in discussing the question whether the word neuritis rightly described a process of degeneration, quoted an authoritative statement from Professor Kontos of Athens as to the original meaning of words such as nephritis and myelitis: they are really adjectives, the word *νόσος* (disease) being understood; the association with the idea of inflammation is of later introduction and is probably explained by the overwhelming importance of inflammatory diseases of the various parts of the body. Diseases and morbid conditions can thus be very, perhaps too, easily named by adding the feminine adjectival termination *ιτις* to the name of the organ inflamed, and some of the words thus coined have aroused considerable criticism on the ground of their polyglot nature and have been described as barbarous; and it must be admitted that there are objections to "Bartholinitis" (inflammation of Bartholin's glands) or "Wirsungitis" (inflammation of Wirsung's duct). The word "appendicitis," constructed by Fitz in 1886, has survived much opposition, Nothnagel's attempt to substitute "scolecoiditis" (inflammation of the worm-shaped appendix, *σκωληκοειδὴς ἀπόφυσις*) having an historical interest only. It is hardly to be wondered at that "appendicitis" did not appear under A in the New English Dictionary as that volume appeared in 1888, but etymological prejudice perhaps explains why it took 20 years to gain admission into the official "Nomenclature of Diseases" (edition of 1906). In the same way the masculine adjectival termination *ιτης* is found in ascites (*ἀσκὸς* = the belly) and tympanites.[12] Ascites qualifies the word dropsy (*ὕδρωψ*) understood, and means (*ὁ ἀσκίτης ὕδρωψ*) the abdominal dropsy; and tympanites (*ὁ τυμπανίτης ὕδρωψ*) describes the drum-like or windy dropsy. Pneumonia or *the* pulmonary disease is arrived at in a somewhat similar manner, but in the present era of bacteriology it may perhaps seem curious that the title "*the* disease of the lungs" should not have been conferred on the commonest[illegible] culosis, but on acute inflammation.

The pathological method of nomenclatu[illegible] the most satisfactory, for it usually ca[illegible] attempt at diagnosis, but it cannot be un[illegible] as in some diseases the morbid changes respons[illegible] group of clinical symptoms are uncertain or unknown, [illegible] example, no pathological title could be employed for the important and more or less established class of the neuroses. In some cases the most prominent symptom or manifestation of the disease supplies its title, as in aphonia, agraphia, paroxysmal hæmoglobinuria, or hæmaturia. This often answers well, but in some instances, as in whooping-cough, for which we have no alternative name in English now that the words "kink-host," "kink-cough," and "chin-cough" employed in the North are no longer, as far as I know, used, a patient may have the disease, but at some period of the disease may not present the symptom (the whoop) which is responsible for its name.[13]

DISEASES DUE TO TREATMENT.

In considering the worldly rewards of medicine some have been known to complain that it is the only profession, or perhaps in this connexion we should say trade, which is per[illegible]oat. This is a bald, [illegible]ncalculable benefits [illegible] country has played such an important part both in its origination and in its most recent developments—namely, the campaigns against malaria and tuberculosis. True as it is that medicine is always aiming at the extinction of disease, yet in a few instances new morbid conditions have been directly called into existence by methods of treatment which are in every way admirable.

Surgery has not only thrown much light on the "pathology of the living," to adopt Mr. Moynihan's phrase, but it has in a few instances manufactured new diseases. I do not, of course, refer to mistakes in technique which result in failure of the operation, such as peritonitis after laparotomy, infection of the neighbouring tissues with carcinoma during amputation of a cancerous breast, a vicious circle after gastro-enterostomy, Volkmann's ischæmic paralysis due to pressure exerted by splints, or facial paralysis from section of the nerve during removal of a parotid tumour. Probably in the allied category of surgical accidents should be placed cases of pulmonary embolism, often manifested by pleurisy when the emboli are small, after appendicectomy, the necessary manipulation in the course of the operation being sufficient to detach thrombi already formed in branches of the internal iliac and other veins. Again, the occurrence of generalised tuberculosis after excision of tuberculous glands may be explained as the result of handling of glands and the propulsion of their bacilli-laden contents into a vessel. In connexion with this group we may mention unsightly and inconvenient results directly due to operations, such as a ventral hernia after laparotomy, which is a comparatively slight penalty when life has been saved by timely interference, but a somewhat embarrassing sequel of an exploratory operation on a healthy abdomen. Post-operative cheloids probably depend more on the idiosyncrasy of the patient than on the operator.

It is difficult to estimate accurately the influence, if any, of operative interference on chronically inflamed or rapidly growing tissues in the production of malignant disease. In the subjects of multiple exostoses operation on a troublesome exostosis has been known to be rapidly followed by a sarcoma *in situ*. The difficult question then arises whether the rapid growth which necessitated operation was transformed into malignant activity by the surgeon, or whether, as might reasonably be argued, the rapid growth was the first evidence of sarcoma. In the following instance there is some, but not convincing, reason to believe that operative interference excited or accelerated the appearance of sarcoma.

A man with osteitis deformans broke his left humerus, and for eight years afterwards there was some thickening at the site of the union

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[8] Hutchinson: Archives of Surgery, 1890-91, vol. ii., p. 305.

[9] Idem, Ibid., 1908, vol. ix., p. 307.

[10] J. Mason Good: A Physiological System of Nosology, 1820, p. lx.

[11] T. Buzzard: Transactions of the Pathological Society of London, 1889, vol. xl., p. 347.

[12] See Achilles Rose, Medical Greek, p. 216, New York, 1908.

[13] [illegible] Scotland. It is derived from [illegible] in paroxysms. The first part [illegible]ous with fit or paroxysm."— [illegible]ure, and Treatment of Chin[illegible] somewhat independent in his [illegible]ctly *kind-cough*, means child's [illegible] "Chin-cough" is an ancient English word; its origin is more obscure than that of kink-cough.

In April, 1908, he bruised it and swelling resulted; it was then cut down upon, as sarcoma was suspected, and scraped. The tissue removed was examined by one of the most skilled pathologists in London with a negative result as regards sarcoma. The patient then fell down and broke his humerus at the site of the incision, and shortly afterwards a large fungating mass appeared in the wound. The arm was amputated at the end of June, 1908, and a spindle-celled sarcoma found. Recurrence has since taken place.

Occasionally operative interference may appear, and here I wish to speak with much caution, to arouse latent disease into activity.

A boy in apparently good health underwent a radical cure for a congenital inguinal hernia by my colleague, Mr. C. T. Dent; this was rapidly followed by ascites and eventually—five months later—after several tappings he died comatose, and an extremely cirrhotic liver was found at the necropsy. Here an operation appears, as in rare instances a fall or exposure to cold has been known to do, to have precipitated the ascites of cirrhosis.

As a set off to these accidents due to surgical interference it is only fair to recall the unexpected but undoubtedly good effects that may follow surgical procedures. Purely exploratory laparotomy may exert a surprising curative effect, although the surgeon is not always able to explain the success of his treatment. Numerous examples of the efficacy of "Laparotomy as a Medical Measure" will be found in Sir Frederick Treves's paper with this title in our Transactions (1898, XXI., 220). It is impossible to attempt a full explanation of these results which in itself would provide material for an interesting paper, but some may be due to the perhaps unconscious division of adhesions, some to variations in the opsonic index of the ascitic fluid before and after incision (tuberculous peritonitis), and some to the production of vascular engorgement after the manner of Bier's treatment.

However beneficial in its ultimate results an operation is necessarily to some extent of the same nature as an injury and therefore like results may follow. Thus operation may precipitate traumatic delirium tremens or an explosion of gout in disposed persons. Neurasthenia may undoubtedly date from a necessary operation and the attendant mental anxiety and profound mental disturbance. Insanity may, as Mr. Dent has shown, occasionally follow any surgical procedure, a sequel which is not necessarily due to a hereditary taint or to the anæsthetic; for between the operation and the onset of mental symptoms there is a period of quiescence, thus distinguishing it from the post-anæsthetic insanity which directly follows the narcosis. But as these results are probably in large measure the "after-effects of injuries," so exhaustively considered in the Oration of last year, and are not the outcome of special changes induced by particular operations, it would be out of place to insist on them further.

Of special interest are morbid conditions due to operations which necessitate some radical change in the normal economy of the body—for example, removal of organs, such as the ovaries or testes, exerting a definite influence on the metabolism of the body. The psychical and physical sequels of castration have long been fully recognised and still demand attention both from the practical point of view and from their bearing on the doctrine of internal secretions. In this last connexion the production of cachexia strumipriva by complete thyroidectomy for goitre is of peculiar historical interest. In 1882 J. L. Reverdin described this sequence of events and in 1883 Kocher gave it this name, but considered that it was due to the injuries inflicted on the structures in the neck. These observations paved the way to the recognition of the causal part played by the thyroid in myxœdema and cretinism, for Sir Felix Semon, after reading Reverdin and Kocher's reports, was struck by the resemblance of the condition to myxœdema and put forward this deduction which, like many other original departures, was at first ridiculed. The discussion thus raised, however, led to the appointment of a special committee of the Clinical Society of London and so to the complete proof of his contention. It has perhaps not been sufficiently recognised that years before this—namely, in 1871—Hilton Fagge definitely associated sporadic cretinism or congenital myxœdema with absence of the thyroid gland, and that Gull's description of "a cretinoid state supervening in adult life in woman" was the first clinical account of myxœdema, so that Guy's Hospital had a considerable share in the recognition of these conditions. Here, again, as in the case of other discoveries, the conception was maturing in the minds of several workers. The connexion of myxœdema with thyroidal insufficiency is now such a well-established tenet of our faith that we have already begun to forget the labourers by whom it was established. This consideration may perhaps justify this brief historical digression.

A disease only produced by surgery and already allotted a place in the "Nomenclature of Diseases" (1906), drawn up by a joint committee appointed by the Royal College of Physicians of London, is the (peptic) jejunal ulcer which occasionally follows gastro-enterostomy, especially the anterior operation. The number of recorded cases, about 60, is so small in comparison with the frequency with which the operation has been performed that it would appear that some as yet unrecognised factor is responsible for the production of the ulcer in those cases in which it occurs.

Whilst the treatment of nasal disease, such as removal of polypi, may cure asthma, it is interesting to note that the removal of polypi has been known to be followed by asthma in a person previously free from the disease.

In a few instances ligatures employed in the course of operation may give rise to very definite morbid conditions; it is hardly necessary to point out that stitch-abscesses come under the heading of surgical accidents due to imperfect technique, and that the occurrence of anthrax and tetanus after the use of catgut ligatures, to which attention has been recently drawn (Richardson),[14] is due to infection directly conveyed. As interesting remote effects reference may be made to gall-stones forming on ligatures and to epiploitis. I have collected eight cases in which operations on the gall-bladder for the removal of gall-stones have been followed by a recurrence of the symptoms due to calculi formed in connexion with sutures. Post-operative epiploitis of a very distinctive kind, with the appearance of an abdominal tumour of a puzzling nature, has been referred to the introduction of silk ligatures into the omentum in the course of herniotomy, of which Schnitzler[15] has collected 28 examples, and other operations, for example, after appendicitis. It may occur weeks, months, or even years after the operation. Occasionally hydrocephalus appears after the cure of a spina bifida. Although it is ungracious to look a gift horse in the mouth it does, I believe, happen, though there are few recorded cases, that after the cut facial has been sutured on to the spinal accessory the patient shrugs his shoulders when he smiles.

Though a critical survey of the subject reveals some interesting instances of what may fairly be called diseases due to surgical procedures they are so insignificant in comparison with the incalculable benefits that we owe to the craft of surgery that it would be absurd to exaggerate their importance. It is, however, obviously advisable to consider carefully beforehand what possible bad effects may follow operations which involve radical alterations in the normal relations of the organs of the body.

The effects of *x* rays on the skin and other parts of the body provide an example of a group of morbid changes produced by a new method of treatment. The dermatitis is somewhat analogous to sunburn and the occurrence of malignant disease to Kaposi's disease or the appearance of multiple squamous-celled carcinomas in freckles. Considerable interest attaches to the production of sterility as a result of exposure to *x* rays; this result is probably commoner than is known, for the absence of spermatozoa from the semen thus produced is not accompanied by impotence; Brown and Osgood,[16] indeed, found this condition of unsuspected sterility in 18 persons who had been employed in manipulating *x* rays for half an hour to four hours three times a week for from two to six years—a very startling result. It has been thought that the active destruction of cells induced in the *x* ray treatment of leukæmia may do so much damage to the liver as to give rise to cirrhosis. Mosse[17] has reported a case of lymphatic leukæmia cured by *x* rays in which the patient succumbed a year later to cirrhosis and ascites. Pleurisy with effusion has also been thought to be caused by exposure to *x* rays.

Although it might logically be only consistent to refer to the toxic effects produced by drugs, for example, arsenic and iodide of potassium, a detailed catalogue of these results would not only be tedious but indeed unnecessary, since the effects are examples of well-recognised forms of poisoning.

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[14] Richardson: Tetanus occurring after Surgical Operations, Brit. Med. Jour., 1909, vol. i., p. 948.

[15] Schnitzler: Wiener klinische Rundschau, 1900, vol. xiv., p. 4.

[16] Brown and Osgood: American Journal of Surgery, 1905, quoted in Osler and Macrae's Modern Medicine, vol. i., p. 62.

[17] Mosse. Berliner klinische Wochenschrift, 1908, vol. xlvi., p. 1219.

In the medical [illegible] due to ulcer it [illegible] not even water, i[illegible] apparently because the dry condition of the mouth favours an ascending infection of Stenson's duct. Fortunately, it appears, from the scanty references made to it in medical literature, to be rare; but in 1000 consecutive cases of gastric ulcer treated medically at St. George's Hospital it occurred in 23 cases, or 2·3 per cent; of the 1000 cases 470 were treated by complete oral starvation, and among these there were 21, or 4·5 per cent, cases of secondary parotitis; the two remaining cases of parotitis were in patients on rectal feeding who were allowed to suck ice. It therefore appears that treatment inducing a dry mouth is a definite cause of parotitis.

Great interest attaches [illegible] serum, either normal or [illegible] as in anti-diphtheritic se[illegible] disease," which in a certain proportion of cases follows the injection of a curative serum, are too well known to require any description. They are usually trivial, and even though in exceptional cases they are severe, about 19 deaths being on record, the benefits of serum therapy are so universal that these infinitesimal risks must be neglected. Recently it has been shown that the entrance of an alien serum into the blood gradually produces a condition of hyper-sensitiveness to a further dose of the serum. This condition of anaphylaxis,[18] which is exactly the opposite of immunity, has been extensively investigated in the guinea-pig, and it has been shown that in this animal death with widespread degeneration of the capillary endothelium and hæmorrhages may be brought about by a second injection of horse-serum given after a certain interval (Gay and Southard[19]). The guinea-pigs take about ten days for this hyper-sensitiveness to develop, but in human beings it appears to take longer. Thus if the interval between the two injections is from three to six weeks there is an "immediate reaction," the symptoms of serum disease (rash, &c.) appearing within a few minutes to 24 hours instead of from seven to 12 days as after a single injection. If the interval between the two injections is longer, three months or so, there is an "accelerated reaction" which appears in five or six days. From the large amount of material under their observation Currie[20] and Goodall[21] have collected a considerable number of these reactions, but fortunately it does not appear that the results in man are likely to prove fatal or that they are so severe as in experi[illegible]

[illegible] underlying the positive reaction in the various tuberculin tests In addition, the peculiar symptoms produced in some persons by eggs and usually ascribed to idiosyncrasy are probably examples of anaphylaxis, and it has been suggested that some cases of puerperal eclampsia are of this nature and due to the absorption of the products of autolysis of the placenta.

Whatever the effect on my audience I have not exhausted the subject of the diseases and morbid conditions directly due to treatment, nor is it necessary to attempt to do so, for probably we all make a practice, not only of estimating any good that may have followed our treatment, but also of closely considering what bad results may possibly be due to our active interference.

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[18] [illegible] (contrary to protection) which has not [illegible] THE LANCET, Dec. 12th, 1908, p. 1774) [illegible] Richet (Comptes Rendus de la [illegible] viii, p 109)

[19] [illegible] Medical Research, Boston, 1907, vol. xvi, p 1[illegible]

[20] Currie: Journal of Hygiene, 1907, vol vii, p 35.

[21] Goodall, ibid, p. 607

UNIVERSITY OF LONDON—The new Physiology Institute at University College (University of London), funds [illegible] generosity of [illegible] the bequest [illegible] June 18th by the Right Hon. R. B. Haldane, Secretary of State for War.

A Lecture

ON

THE TREATMENT OF CHRONIC DISEA THE HEART.

Delivered at the Medical Graduates' College and Polyclinic on May 13th, 1909,

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GENTLEMEN,—The treatment of well-marked failure of the heart is generally understood by medical practitioners and duly appreciated by patients When there was marked dyspnœa, rapid, irregular pulse, ascites, œdema of the extremities, and other signs of back-pressure, the therapeutic measures which should be adopted are undoubted—namely, cardiac tonics such as digitalis, strophanthus, strychnia, the administration of oxygen, and the like, with due regulation of the diet, removal of fluid by paracentesis or "tapping," suitable purgation, and last but not least—rest. Considerable relief can often speedily be obtained to the above symptoms by the proper adoption of the measures I have indicated, but when the malady has assumed a more chronic condition the perseverance of the medical man and the patience of the sufferer are both severely taxed In the acute stage of cardiac disease all efforts must be devoted to the establishment of satisfactory compensation, the mechanism of the circulation has to be adjusted, mainly by the dilatation and hypertrophy of the ventricles, notably the left. The reserve force of the heart's muscle has to be heavily drawn upon and it is on this factor that the success or failure of the treatment will mainly depend Subsequently, the maintenance of that compensation is equally important and requires a vast amount of care and attention. It is, however, the chronic cases of diseases of the heart to which I wish to confine my remarks this afternoon and to suggest to you the line of treatment which should be adopted, and I shall offer a few practical hints as to the general management of such cases.

The conditions most likely to call for aid are the following: Mitral regurgitation in which there are signs of failing compensation and degeneration of the myocardium, either fatty or fibroid, also certain functional affections of the heart *and cardiac overstrain.* Aortic regurgitation and mitral stenosis less often come under this category, for when compensation fails in these conditions the course of events is much more acute and the symptoms are more of the class to which I referred in my opening remarks

The majority of the patients suffering from chronic disease of the heart in the above sense present evidences of alterations in the walls of the heart. In fact, I would go further than this and say that all patients who show indications of cardiac failure, slight or severe, do so because the muscular power of the heart is not equal to the work which it has to perform. I cannot lay too much emphasis on this point, for in the treatment of these cases all our efforts must be devoted to sustaining the reserve force of the heart's muscle, for if that fails our endeavours will be in vain. In the course of my remarks I shall endeavour to suggest how *this can best be done.*

In the first place I would lay stress on the fact that a thorough coöperation of the patient with the efforts of the practitioner *is absolutely necessary for successful results.* Hence the vital importance that the doctor should obtain the full confidence of his patient. Then the question arises, how much should a patient be told as to exactly what is the matter with him. As a general rule of life, in order that affairs may move perfectly smoothly, complete candour between the operating parties is necessary. For my own part, however, in the treatment of disease I doubt whether this principle always holds. I think it is very questionable whether the exact condition of the heart should be disclosed to the patient. It will in some measure depend upon personality and individual nature. The use of the term "heart disease" to a patient is frequently productive of great depression which it is most important to avoid, whilst the necessary injunctions can generally be given with sufficient emphasis without either minimising the seriousness of the condition or pronouncing words that often to the lay mind sound like a death warrant. Once tell some individuals that they have heart disease and very likely they will never know another happy moment. Another matter on which I desire to lay great stress is that restlessness, depression, and apprehensiveness are characteristic symptoms of failure in circulation, and these may be aggravated if patients are told that organic disease of the heart exists. The state of affairs may be explained to such patients in more diplomatic phrases. For instance, they may be told that as age advances certain physiological changes occur in the tissues, that the organ first to feel those changes is the heart in that it cannot respond to any sudden call as in younger life, hence the necessity of refraining from doing anything that might throw a sudden strain on the heart, such as running to catch a train, walking up hill rapidly, &c. There is among laymen a general impression that "heart-disease" is incurable and in one sense of course this is right. But the physician is aware that if certain maxims are observed in many cases life may be prolonged for some years, for a sufficient number of years, perhaps, to enable the patient to die of old age, whatever that may mean.

Again, if a patient has a murmur, should he be told so? Such a term is likely to be misleading. A murmur is only a sound, to the physician it has valuable indications, but a lay person cannot be easily induced to appreciate these indications, therefore in many cases it may be unwise to make use of the word.

Next as to the principles which have to be borne in mind in actually directing the management of a case of chronic cardiac disease. As I have already said, the essential point is to endeavour to sustain the muscular force of the heart. This may be done (1) by increasing the power of the heart; (2) by taking measures to maintain its nutrition; and (3) by reducing the peripheral arterial tension—i.e., the resistance to the heart.

1. *To sustain the force of the heart.*—This is the point to which main attention is usually directed. The administration of what are known as cardiac tonics is the plan that first suggests itself. It is an error, however, because the heart's action is weak and irregular simply to rely on digitalis and strychnia. Such drugs are certainly useful, so also are strophanthus, convallaria, and sparteine. But all these drugs must be used with caution and discrimination. Employed alone they may sometimes be sources of danger, especially in advanced life, from the power they possess of raising arterial tension. Speaking generally, they are more useful in acute heart failure than in more chronic cases; many idiosyncrasies occur and some patients tolerate some of these drugs badly.

Much more can be done by carefully studying the patient's habits of life. We can do much to increase the cardiac reserve by giving the heart rest. In order to do this it is not necessary to make the patient live the life of an invalid. If we can render the work of the heart more even we shall at the same time increase its power. If, then, we find a weak, irregular pulse, indicating that there is not the calm rhythm that there ought to be, a few tactful questions will frequently enable us to ascertain the cause which has upset the tranquillity of the circulation. In a very large number of instances we shall find that some psychic process is at work increasing the irritability and apprehension which, as I have said, are prominent symptoms of a failing or irregular circulation through the brain. "A regular cerebral circulation is attended with a feeling of security, a failing circulation with insecurity. If we can in any way help our patients to "throw off life-harming heaviness and cultivate a cheerful disposition" we shall do a great deal towards sustaining the power of the heart. This unfortunately, is by no means easy, but by suggesting a regular mode of life we can be of some help. We are consulted by patients in varying classes of life and we must suggest in accordance with circumstances. One of the most difficult is the business man, with myocardial degeneration, who with a large family to support, finds the restrictions and worries of a city life increasingly difficult. In many of these cases it would be most unwise to advise complete retirement from business. But by dint of questions and hints we can often succeed in so rearranging his daily life that the requisite rest can be obtained.

2. *Measures for promoting the nutrition of the heart.*—In order to bring this about we must insure that the coronary circulation is satisfactory. This can best be accomplished by regulating the amount of exercise and rest that the patient takes. The principal object is to stimulate the arterial circulation in the muscles, to hasten the venous currents, and also to promote the passage of lymph through the lymphatic channels. The whole metabolism of the body is thus improved, and the result is eventually shown in a better digestion and general relief of the nervous symptoms. This result may be brought about in the more simple cases by directing the patient to take walking exercise daily, the length of the walk being gradually increased and the gradient up which the patient walks being also raised if possible. At the same time, the patient should pause occasionally and take a few deep respirations. Thus, the lungs requiring more blood, the heart is temporarily relieved. Marked dyspnœa or pain across the upper chest are both symptoms which should receive due attention, being valuable guides to the amount of exertion which may be considered beneficial. For those who cannot take active exercise massage may be adopted, whereby the tendency to stagnant circulation is materially lessened. This measure is particularly useful in assisting to stimulate the coronary circulation in those patients who are bedridden, or compelled to take very little exercise, and on that account tend to impairment of the heart's nutrition and suffer from chilly extremities, feeble pulse, torpid digestion, and passive pulmonary congestion.

3. *To reduce the peripheral resistance.*—Before discussing the mechanical means which have been introduced with the object of regulating exercise I shall briefly consider the third principle which should govern our treatment—namely, the reduction of the peripheral resistance. I do not think that this element has been sufficiently emphasised or understood. It is evident we can attempt to help the heart either by increasing its power or reducing the work which it has to do—that is to say, by reducing the tension in the peripheral vessels. To some extent this may be done by drugs, although recent investigations have shown that the vaso-dilators as a rule only cause very temporary lowering of the tension, and are more of use when a temporary relaxation of the walls of the vessels is required than when a prolonged effect is required. Thus the vapour of amyl nitrite is very rapid in its action, and so is useful in an attack of angina pectoris, when immediate and decided action is necessary. The same remark applies to nitroglycerine, usually prescribed in the form of liquor trinitrini or in tablet form. For a more prolonged action nitrite of sodium will be found satisfactory. I have also obtained good results from the administration of iodide of potassium (from three to five grains) with the bicarbonates of sodium and potassium. These may be combined with the cardiac tonics, strophanthus being given if the tension is inclined to be high.

I have now to consider mechanical methods of treating chronic heart disease. I would here speak with due caution, basing my remarks on my own experience as well as on discussions which have taken place from time to time in the medical press and at the societies. These methods may be divided into treatment by baths and by exercises. I will first speak of the baths.

Certain spas, notably Nauheim, have derived great reputation for the treatment of cardiac affections. Indeed, at one time there was almost a tendency amongst the public to think that if anyone was a sufferer from heart disease he must go to Nauheim. Fortunately, that feeling is not so strong as formerly. Personally, I believe that certain cases may derive considerable benefit from a visit to Nauheim or other spa where waters highly charged with carbonic acid may be obtained. There is a decided limitation, however, to the cases which may benefit, but perhaps my reasons for expressing these opinions will not coincide with those of other physicians. I have already laid stress on certain symptoms which cause such distress to some cases of chronic heart disease—namely, restlessness and apprehensiveness. The mere fact of "doing something" for these patients, the knowledge that some active measures are being taken other than taking drugs, have a very beneficial effect on some individuals. If we can succeed in calming their apprehension and removing them for a time from their gloomy introspective habits we shall have done great service. At Nauheim various strengths of baths are given and it gives a great sense of encouragement to the patient when he is allowed to go from a weak bath to a strong one, especially when he is immersed in the "Strom Bad" he feels he is indeed making progress, and the nervous symptoms are accordingly relieved. Further, the temperature of the bath tends to produce dilatation of the peripheral vessels and so may relieve the heart in that way. For my own part, I also believe that the effect of the carbonic acid at a high pressure increases the dilatation of the vessels and that an effervescent bath has rather more effect than an ordinary bath at the same temperature; I admit, however, the mental processes may again play an important part. On getting out of the strongest bath the skin is certainly red, and, as I say, I believe this stimulation has some real though perhaps slight effect. Next as to the various forms of graduated exercises that have been introduced. The three chief varieties are well known to you—the hill-climbing of Oertel, the mechanical contrivances of Zander, and the resistance exercises of the brothers Schott. It is, indeed, important to remember that in the majority of cases of the class of diseases I am now considering a certain amount of regulated exercise is demanded. It is a great mistake for these patients to consider themselves as bed- or sofa-ridden. But the exercise must be carefully controlled. Generally a few simple precautions are all that is necessary, but in some instances a regular course is of benefit, for the same reasons which I gave in the case of the baths, firstly, because it proves to the patient that "something is being done" for him. The consciousness of this is of surpassing benefit to some minds. Secondly, because a muscle in action requires more blood than a muscle at rest. I consider that muscular action properly controlled is useful in some of these cases. For choice I should choose either the hill climbing or the resistance exercises as being the most easy of application. In addition to the movement of the muscles of the trunk and limbs, the deep respirations which are directed to be taken attract more blood to the lungs and so add to the relief experienced by the heart.

I wish entirely to dissociate myself from the practice sometimes adopted of taking diagrams of the tracings of the area of cardiac dulness before and after the baths and exercises. As far as I am aware these tracings have never been scientifically proved. In percussion the personal element enters strongly—perhaps that may be the explanation. It is quite possible that at the end of a course of treatment the heart may be less dilated than before, but I have never been able to determine any alteration after single baths and exercises. Here again I am only expressing my own opinion; other observers may entirely differ from me. To express the matter in a few words, I consider that the benefit which some individuals experience by a visit to Nauheim or other similar resort is due very largely to the regular *régime* under which they are placed, and but little to the actual potency of the waters.

Can similar results be produced at home by artificial baths? My own experience has not been favourable in this respect. If the patients could be induced to undergo precisely the same *régime* as at the spas I think much might be done, but the arrangements in this country do not permit of it unless one of the English watering-places is visited, and even then, much as one dislikes to say it, with one or two praiseworthy exceptions the necessary support is not afforded by the local and hotel authorities to the medical men. The fault does not lie with the medical profession but with those who are responsible for the general social arrangements. Moreover, the mere fact of being sent to a foreign spa, with all the changes in diet and mode of life, the interest of watching foreign folk and customs, adds to the moral effect of the treatment which, in my opinion, has such an influence on the mental attitude of sufferers from chronic heart disease.

Closely allied to the mechanical treatment is the diet. This should be simple, attention being duly paid to the state of the digestive organs. When the gastric circulation is disordered faulty digestion must follow. But beware of the usual "invalid" diet! When will it be fully recognised that much of the carbohydrates is digested by the ptyalin in the saliva? What can be more favourable to fermentation in the stomach than to give starchy pultaceous food which is designed to be
without mastication and without proper
saliva? A certain amount of saliva is und
but probably not in sufficient quantity to
carbohydrates which lie unaltered in the
tendency to undergo undesirable fermenta
substances then should be given which can be
masticated. Starchy foods should be given in the form
biscuits or "flowered" potato and directions should be given for thorough mastication. Fish, chicken, boiled mutton, and other digestible foods may be given, preferably in small quantities, and the meals may
wiches of fresh potted meat or
essences in strong solutions.
be as dry as possible, the liquid being taken at the end of the meal.

Time will only permit of a few remarks on symptomatic treatment. The most important condition probably is insomnia. Want of sleep is a common symptom in heart failure, and if rest be procured great relief will often follow. Simple means, such as change of position, bathing the face with warm water, a handkerchief over the eyes, or a little warm drink may be tried. Frequently, however, a hypnotic will be necessary. After trying many, I have found chloralamide dissolved in rectified spirit the most favourable, commencing with 20 grains and pushing it up to 70 grains if necessary. Veronal in 2 to 7 grains may also be tried, but must be given with caution. Sulphonal or trional I have not found so good. Paraldehyde is sometimes useful. In some instances opium or morphia must be resorted to, the chief contra-indication being pulmonary engorgement.

Palpitation.—This symptom may be caused by the cardiac condition or by digestive disturbance. Strychnia, nux vomica, or digitalis may be necessary, but in many cases the bromides are the most useful drugs.

Indigestion.—If this cannot be remedied by diet, relief may be obtained by the use of drugs as usually prescribed in dyspepsia. If there is undue fermentation I have found taka-diastase a useful preparation. Bismuth in the liquid form, given with nux vomica, may also be tried.

By judicious employment of the methods which I have described in this paper much may be done to relieve the lives of those who are the victims of chronic cardiac disease. Hope springs eternal in the human breast, and although some of our patients may have given way to despair in the belief that their lot can never be improved, yet by perseverance in the directions which I have indicated the lives of such patients may not only be rendered endurable but eventually they may enjoy an immunity from suffering and discomfort which is, indeed, to them a consummation devoutly to be wished.

NOTES ON THE EFFECT OF RADIUM IN RELATION TO SOME PATHOGENIC AND NON-PATHOGENIC BACTERIA.

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THE physical properties of radium are of considerable importance, both from a clinical point of view and in their relationship to x rays, it being a substance which is constantly giving off emanations without appreciably losing weight. These emanations are comprised, as far as is at present known, of three kinds of rays, named respectively α, β, and γ. The α rays consist of particles of matter of the same size as an atom of hydrogen, and travel at one-twentieth of the velocity of light, these properties being similar to those of the anodal rays produced in an x ray tube. The β rays are from 1000 to 2000 times smaller than an atom of hydrogen, and travel with the same velocity as light, these properties being similar to those of the kathodal rays of the x ray tube. Both α and β rays are deflected by a magnetic field. The γ rays differ from the above in not consisting of particles of matter but of vibrations of the ether of very short wave length, nor can they be deflected or reflected by any known means, travelling always in a straight line. No known substance is absolutely opaque to them, resembling in this respect x rays. The α rays have very little power of penetration but a rather severe effect on the skin, whilst the γ rays are very penetrating but damage the skin very slightly, the β rays occupying an intermediate position in both respects.

Radium when employed for therapeutic purposes was formerly used in powder or small lumps inclosed in either a glass or aluminium tube. This method has now been superseded by spreading the radium, in the form of sulphate, over the surface of a flat metal disc and then fixing by means of a hard varnish.

The earliest form of varnish was employed by Danlos in 1905, but the modified form as used and described by Danne is now commonly used. The sulphate is preferred to the bromide for the form of application on account of its being insoluble, whereas the bromide being readily soluble is more liable to loss and damage in use. When used in the form of bromide it is best used pressed in the thinnest possible layer between a metal back and a thin aluminium or mica window as described by Macleod, who also sums up the advantages of the spreading and varnish method as follows: 1. That by it practically all the rays from the radium are available, the less penetrating rays not being intercepted by the glass, mica, or aluminium window of the older applicators 2. That in a given quality of radium a much larger radio-active surface is obtained over which the radio-activity is evenly distributed. And it has been estimated that 1 centigramme of a radium salt of an activity of 100,000 has approximately the same effect on tissue as 5 centigrammes of a salt of an activity of 600,000 collected in a small mass in a glass tube.

Radium is now being extensively used at the Radium Institute in Paris for the treatment of various malignant growths, such as epitheliomata, rodent ulcers, &c., and has also been favourably reported on in treatment of angiomata by Wickham and Degraise. With regard to the action of radium on the lower forms of life, ferments, &c., the following is a brief summary of the principal results recorded.

M. Dauphin, working on the effects of radium emanations on the various moulds, concludes that "the rays of radium stop the growth of mycelium of the Mortierella and prevent germination of the spores. This action is, moreover, chiefly paralysing; they cause the appearance of real cysts in the interior of the filaments, evidently organs of defence." He also concludes that spores and mycelium submitted to the action of the radium are not killed, but that they are in a latent state of life and when replaced in normal conditions can once more germinate or continue to develop afresh.

Victor Henri and Mayer found that the radium rays rapidly destroy the activity of the ferments emulsin and tyrosin.

Wilcock later confirmed their results with regard to pepsin, trypsin, and ptyalin, but states rennin to be exceptionally resistant; but Schmidt Nielsen found rennin to be slightly weakened.

Fenton has shown that radium rays produce H_2O_2 in water and Vanderelde showed that these ferments are not only immune to, but more active in, presence of H_2O_2.

Ch. Bouchard and Balthazard working with various bacteria state that when exposed to the emanation from 0·0006 of a milligramme of radium for one hour these organisms suffered a reduction in colour, virulence, and showed an increase of involution forms. They also showed that when the emanations from 0·003 of a milligramme of radium are applied to a growth of *Bacillus pyocyaneus* the pigment (pyocyanin) was still diffused into the media, and further that the colour of *Bacillus prodigiosus* was unaffected. In the case of a stab culture apparently radium only affects the surface colonies and does not penetrate.

A large quantity of radium has recently been acquired for Guy's Hospital, and the treatment of cases is now in active progress; and with a view of ascertaining the action of radium on the various bacteria, both pathogenic and non-pathogenic, advantage was taken of the presence of the radium above alluded to in the hospital for one of us to conduct the following experiments in the bacteriological laboratory by the kind permission of Dr. J. W. H. Eyre. Our object was to determine the direct action of this substance on various cultures and organisms as regards their capacity for growth, chemical properties, staining reactions, and also motility, after being exposed for varying periods of time to the direct action of radium emanations.

The first experiment was conducted with a view to ascertain the capacity for growth of organisms after exposure to radium rays, and also to observe any possible effect on the media used. Plates of nutrient agar were poured and dried for one hour in the incubator at 42° C. After cooling, a loopful of a 24-hours broth culture of *Bacillus pyocyaneus* was spread evenly over the surface of each of these plates. The radium was now applied directly to the surface of the inoculated media, for 10 minutes, 20 minutes, and 60 minutes respectively. After exposure a sterile platinum loop was rubbed over the exposed area and a sloped tube of nutrient agar was inoculated with the loop. Both the tubes and plates were now inoculated for 24 hours at 37° C. and examined for growth, the exposed and unexposed areas on the plates being carefully compared; three cover slides were prepared from the exposed and unexposed areas on the plates, also from the tube growth. These were each stained by weak carbol-fuchsin, carbol-methylene blue, and by Gram's method. After careful comparison, no difference whatever could be detected in the capacity of the organism to take the various stains after exposure, its capacity for growth and reproduction was unimpaired, as also was the amount of pyocyanin diffused into the media. A virulent culture of anthrax, only two strains removed from the human body, was also inoculated in a similar manner to the above, and no difference whatever could be detected in the growth before or after exposure. In addition, portions of a plate showing luxuriant growth were exposed to the radium rays for 30 minutes and 60 minutes respectively. These were afterwards examined for capacity to grow and multiply in comparison with the unexposed areas and found to be identical. Cover slides from the cultures before and after exposure were also stained with a differential stain to demonstrate spore formation, the only difference observed being that after 60 minutes' exposure to radium it was thought that the organism showed a slightly increased tendency to spore formation.

Staphylococcus aureus was also investigated in a similar manner and was found to be unaffected as regards its capacity to grow, multiply, and stain evenly and readily after exposure to radium for periods ranging from 15 minutes up to 60 minutes, it being impossible to detect any difference whatever. Various non-pathogenic organisms were also investigated, such as *Bacillus subtilis*, *Bacillus megatherium*, &c., and all were found to be unaffected as regards capacity for growth, staining reactions, and in some cases motility.

Bacillus coli communis, on account of its importance in bacteriology, was investigated fully as regards growth, staining reactions, and motility after exposure to radium for various periods of time, such as 30 minutes, 60 minutes, &c. One culture was exposed to radium for 17 hours and found to be unaffected. In addition, the fact that its biochemical character was unimpaired was demonstrated both by planting colonies after exposure to radium for various periods on to Conradi and Drigalski litmus, lactose plates; by planting into bile salt litmus broth, and observing acid and gas formation; also planting on to mannite neutral red nutrient agar plates. In every case parallel cultures of the same strain of *Bacillus coli communis* not previously exposed to radium were made and carefully compared, but after examination by three independent and competent observers all were agreed that no change whatever had taken place as a result of the exposure to radium emanations.

The influence of radium rays on the motility and agglutinating powers of organisms was investigated in the following manner. A loopful of a young and vigorous strain of *Bacillus typhosus* was planted into sterile nutrient broth. This was then incubated at 37° C. for 18 hours. At the end of that time a loopful of the culture was examined and was found to be actively motile. To exclude the presence of clumps as a source of error in the subsequent observations a few sterile glass beads were added to the broth culture and placed in an electrical "shaker" for a few minutes. On again examining a hanging drop the organisms were found to be discrete, actively motile, and absolutely free from clumps. Six hanging drops were now prepared from *the same culture and compared at once for motility, freedom* from clumps, &c. The controls were labelled Ca, Cb, and Cc, and the others 1, 2, and 3 respectively. They were now exposed to the radium emanations for 15 minutes, 30 minutes, and one hour respectively; then again carefully compared with the 'control' at the end of their respective periods of exposure. This experiment was repeated several times, and the collective results noted. It was found that in the case of *Bacillus typhosus*, in most of the samples examined, a slight increase in motility was observed at the end of 15 minutes, but after 30 and 60 minutes' exposure no difference whatever could be detected between the organisms under observation and the control. This is most interesting, as Fenton has shown that radium rays produce hydrogen peroxide in water, and it would here at least have been reasonable to suppose that, even if the radium rays themselves did [illegible] the *Bacil* [illegible] done so. [illegible] if at all in such a short time; consequently being so very dilute the effect was to stimulate the organisms rather than act as a germicide. Cultures of *Bacillus coli communis* were also examined for decrease in motility, if any, a rather more actively motile specimen than usual being used. But none whatever could be detected. Various non-pathogenic organisms were examined at various times and in a similar manner, but in every case the result was negative.

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THE THERAPEUTIC EFFECTS OF RADIUM EMANATIONS IN SOME DISEASES OF THE SKIN.

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WHILE much has recently been written on the effects of radium on skin diseases, especially when spread and set in a thin layer, I am not aware of any publication on the effects of radium emanations in skin diseases, and the following observations will therefore be of interest. At the beginning of 1906 Sir William Ramsay was [illegible] with these emanations, which are [illegible] gas from a solution of radium [illegible] quantity as regards bulk, but in [illegible] and in some cases very powerful effect. Thus the amount given off from 150 milligrammes in 24 hours was estimated by Sir William Ramsay to be about the fortieth of a large pin's head. At the same time some of the water is decomposed into its component pa[illegible] the three gases are conduc[illegible] bulb where by an electric [illegible] are reunited into water and [illegible] solution and after dilution up to two cubic centimetres the [illegible] d be [illegible] two forms, locally and by subcutaneous injection. For the local application I asked Sir William Ramsay to have the solution of the emanation diffused through a weak gelatin jelly. The tube containing the freshly prepared jelly was immersed in warm water to melt it, the tube broken, and the fluid applied to the surface to be treated and covered first with muslin and then with lead foil which was bandaged on. The first case to which it was applied [illegible] who for the previous [illegible] some eczema of the fin[illegible] fire engine. It was in the form of horny scaling of the backs of the fingers of the right hand chiefly but slightly on the left; *when the hands were in contact* with water the skin became softer and almost "raw." In other ways he was a healthy man. The patient stated that *he had a constant succession of attacks*; [illegible] hand was bad, then it would take a mo[illegible] and then it would break out again. The[illegible] were wrapped up for a week in a glycerine [illegible] lead solution without any marked difference. [illegible] 1906, the right index finger was treated with radi[illegible] emanation solution as above described for one hour, and the middle finger in the [illegible] lead being continue[illegible] the 19th the skin on [illegible] and the horny thicke[illegible] was peeling off, leaving the skin beneath healthy looking. The lead-treated fingers, although showing some improvement, were much behind those treated with radium. On the 23rd the relative improvement was maintained and gelatin without radium emanation was applied to the lead-treated finger to eliminate any source of error in the comparison. On the right fourth finger radium emanation was applied for four hours, and three days later the skin was pale and the diseased epidermis exfoliating. The second finger, which had had the emanation for two hours on the 19th, was better than the index which had had it for one. On the 30th the index, middle, and fourth fingers again had the emanation for two hours. On Feb. 6th there was no marked difference except that the middle finger was no longer painful. The application was repeated for two hours. On the 9th there was a thick layer of scales on the treated fingers but when this was picked off the skin beneath was pale. On the 13th the application was kept on for 12 hours and on the 16th the improvement was much more marked. The greater part of the thickened skin had exfoliated and where this had occurred the skin appeared normal. The contrast between the fingers treated and the ring finger which had had no emanation was very marked. On the 27th the improvement was maintained and the patient was discharged from the hospital.

The case showed first that radium emanations can be used with beneficial [illegible] secondly, that [illegible] *not only safe* [illegible] applications at first employed for fear of evil results from an agent of unknown power. In the next case, therefore, a girl, aged 12 years, with palm-sized hard patches of psoriasis on the knees, the application was made more boldly and she was treated as an out-patient. The procedure was on the same lines and the patches were completely removed and the knees remained well, speaking from memory, for a year or more.

In the two following cases the radium emanation was dissolved in 2 cubic centimetres of distilled water and injected subcutaneously in the interscapular region. The first, a man, aged 30 years, who had been in the Marines from the age of 16 for 12 years, having gained his early admission by saying that he was 18, had seen service in the Mediterranean, off the west coast of Africa and Ascension Island, Spain and Portugal. He had some granulomatous tumours which were diagnosed as due to mycosis fungoides, and although, contrary to his statements, there was reason to believe that there was a syphilitic element, the fact which is important as regards the radium emanation remains that he had granulomatous tumours which yielded to a great extent to the radium injections. The man had been in the University College Hospital in June and July, 1905, and most of the tumours had yielded to x ray exposures He was readmitted in February, 1906, with nodular tumours from a hazel nut to a walnut in size, chiefly in the scapular regions, especially on the right side The first injection was made on Feb. 9th in the middle of the vertebral border of the right scapula. The injections were repeated weekly, or nearly so, until May 4th, 13 injections in all. There was slight aching for a short time after the injections, otherwise they gave very little inconvenience, and under their influence the tumours had in great part cleared up and the arms also had improved, but all the lesions had not entirely disappeared.

The second case, a woman, aged 32 years, was an indubitable and uncomplicated case of mycosis fungoides. She first came under my notice as a private patient in June, 1907, the disease dating from June, 1906. As she could not afford x ray treatment and the disease being already in the tumour stage she was admitted into University College Hospital where she was treated for seven weeks with the x rays with great benefit, most of the tumours disappearing. She subsequently attended irregularly as an out-patient. After being absent from illness for some months she was re-admitted on July 29th, 1908, on account of numerous fresh tumours, very large and fungating on the buttocks and numerous smaller ones scattered about the body and limbs. The treatment was carried out by Dr. George Pernet, then assistant medical officer in the skin department, and in full charge during my absence on holiday. The following is an abstract of his notes. On August 21st the injections were commenced in addition to x ray exposures for the buttocks, the emanation being collected in 24 hours from 231 milligrammes of radium and injected under the left scapula. On August 25th it was also applied locally in gelatin, covered with lead foil as before described, to a group of granulomata on the flexor surface of the right forearm. It was removed after 24 hours and the surface of the granulomata was covered with blackish looking epithelium. There was no pain felt. On the 28th it was noted that apparently as the result of the first injection there was more discharge from all the growths. A second injection was made and on Sept. 1st the discharge was still very abundant from all the open tumours, especially in the axillæ, and she felt more comfortable there; a tar bath also gave her relief. A second local application was also made in the same place. A third injection and local application were made on the 8th. As a result of the latter there was a great deal of discharge at the site of application and some redness and soreness but no pain. The tumours were flatter. There was also some flattening of the tumours of the upper part of the back near the injection site and profuse discharge everywhere. A fourth injection with a similar result was made on the 18th.

Case 3 was a private patient, a lady, who had suffered from a chronic scaly eruption extending all over the covered parts of the body and limbs which had for many years defied medication and spa treatment of all kinds from the principal dermatologists of England and the continent. The eruption had, however, yielded to the x rays, but only at the parts immediately exposed to them. In the hope that the injection of radium emanations might have a wider influence than the x rays she consented to have the experiment made. The details of the disease are published under Case X. of my article on Xantho-erythrodermia Perstans.[1] The first injection was made on May 11th, 1906. On the 18th the site of the injection was sore, swollen, and hard; the same effect was produced by the second and third injections, but the fourth and fifth were injected somewhat deeper and no induration followed, but in the three following made as deeply there was some induration, but less than the first two. On July 3rd, when the eighth was given, there was no material change in the skin condition, but on the 23rd there was considerable change for the better, much of the eruption round the site of the injections having cleared but not completely. On the site of the eighth injection on the left side there was a red raised swelling one inch in diameter, tender but not excessively so. She was not seen again until Oct. 25th, and it was then noted that the skin was paler in the area of injections, but the results were not striking enough for the injections to be continued. On Feb. 25th, 1908, the next time she was seen, the area in which the radium injections had been made was quite clear for a space including the whole scapular region and that of the left deltoid.

Few as these observations are they show that radium emanations have very decided effects, whether used locally or subcutaneously, on chronic inflammations of the skin on the one hand, and on granulomata on the other, and while nothing revolutionary has been or is likely to be obtained from their use, a good case for further investigation has been made out if, and when, as we are promised, a large supply of radium will soon be available in this country to afford these emanations in sufficient quantity daily; radium being like a milch cow, able to give a daily supply for a considerable period, though again like that useful animal, it requires intervals of rest also. An interesting point for investigation is, which of the above effects are due to the alpha and which to the beta and gamma rays. We know that as radium is usually applied, the alpha rays can be screened off by glass, mica, and even paper, leaving nearly all the beta and gamma rays, which have proved so valuable for rodent ulcers in spite of some *ex cathedra* statements to the contrary, while, as Wickham has shown, prolonged exposures through lead-foil are also valuable, the gamma rays being then the chief agent. I am not aware of any experiments on the alpha rays alone, for they are so easily cut off that isolation is difficult. Even in the gelatin solution Sir William Ramsay estimates that probably 50 per cent. are lost, while all the beta and gamma rays would be available. On the other hand, in the subcutaneous injection of a simple solution in water of the emanation all the rays could take effect. The painful swellings produced in one of the cases by subcutaneous injection were absent in the other two, and can be diminished by the injections being deeply made; still it is a drawback which must be faced as a possibility and would tend to restrict the hypodermic use to diseases of severity or resistance to other therapeutic measures; but as regards the local application no trouble of any kind was observed. It was hoped that opportunity for further observations would have been afforded, but so large a quantity of the radium salt is tied up for a considerable time to obtain the emanations that this has not been the case.

Harley-street, W.

THE ELECTRO-CARDIOGRAM OF MAN AND OF THE DOG AS SHOWN BY EINTHOVEN'S STRING GALVANOMETER.

BY A. D. WALLER, M.D. ABERD., F.R.S.

A VISIT to Leyden during the Easter vacation and a review of the extensive collection of human electro-cardiograms gathered together by Professor Einthoven during the last ten years have very materially assisted me to a general understanding of the information he has obtained by this method of investigation. My own observations in 1887 were limited to the demonstration of the facts and of the favourable and of the unfavourable physical conditions of the demonstration in accordance with the position of the heart, and I certainly had no idea that the electrical signs of the heart's action could ever be utilised for clinical investigation. Indeed, while even now the points that appear to me to be of principal interest are in the first place the bare fact that by leading off from the extremities of any man, woman, or child the electrical effects accompanying the heart beat can be seen and photographed, and in the second place the general conclusion derived from a comparative study of electro-cardiograms to the effect that the normal progress of muscular contraction is essentially similar in man and in the dog and in the frog, I am constrained to admit that Professor Einthoven's results, obtained with the extraordinarily *sensitive* galvanometer he has invented, show that the method is capable of giving real information unattainable by any other means, besides bringing out with a clearness and distinctness unapproachable by any other instrument the actual details of the normal electro-cardiogram.

In my first experiments I only noted a double positive effect with each ventricular systole, the first effect being small and of rather doubtful direction, the second being longer and more prominent and simultaneous with the ventricular systole. These are the waves R and T of the series of five waves P, Q, R, S, T, that Einthoven distinguishes (Figs. 1 and 2) in the normal electro-cardiogram. To recognise these points it is necessary to study the typical electro-cardiogram of the *human* subject with, e.g., the right hand and the left foot placed in connexion with the two poles of Einthoven's galvanometer. With the instrument at my disposal in 1887—Lippmann's capillary electrometer—the first wave P, which is due to the auricular contraction, was altogether invisible and the two negative waves Q and S immediately preceding and succeeding the first ventricular wave R could not be distinguished. Einthoven now shows that in cases of hypertrophy of the right ventricle resulting from mitral regurgitation this first ventricular wave R is considerably increased, whereas in cases of hypertrophy of the left ventricle resulting from aortic regurgitation R is reduced or actually of reversed direction, downwards instead of upwards. The fact is unexpected, but quite clear and

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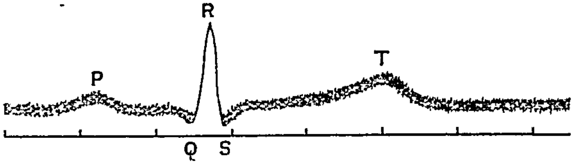
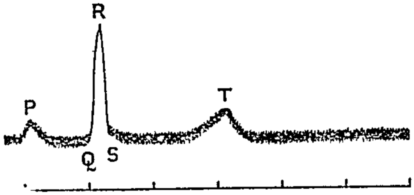
[1] British Journal of Dermatology, vol. xvii., 1905.

FIG. 1.



Einthoven's normal electro-cardiogram of the human subject led off to the galvanometer by the right hand and the left foot. The scale marks tenths of seconds.

FIG. 2.



Einthoven's normal electro-cardiogram of a dog led off to the galvanometer by the front and back legs. The scale marks tenths of seconds.

characteristic, while by no means easily explained. If upward movement signifies negativity of the base of the heart downward movement signifies negativity of the apex of the heart, and it is difficult to understand why such a reversal should be an effect of mere hypertrophy of the ventricle. Another change pointed out by Einthoven as being characteristic of mitral stenosis is, perhaps, easier to account for [illegible] icular wave P signifying [illegible] the auricular contraction [illegible] " where two auricular beats occur to each ventricular beat, or where the auricular and ventricular beats are completely dissociated; the abnormal (allorhythmic) abortive beats of an unfilled heart leading to dropped pulse beats; various forms of atypical heart beat with or without the production of an arterial pulse are all very clearly brought out in Einthoven's electro-cardiograms, and throw light not otherwise obtainable upon obscure clinical manifestations of disorderly cardiac action. I do not however imagine, nor I believe does Einthoven, that the string galvanometer, however useful and even necessary it may be in the physiological laboratory, is likely to find any very extensive use in the hospital as affording means of physical diagnosis more searching than those in daily use. It can at most be of rare and occasional use to afford a concrete graphic record of some rare anomaly of cardiac action, as it has already in the hands of Einthoven, Lewis, and others served to bring into clear evidence the extraordinary disorders of contraction of which the diseased heart is capable. But for all ordinary purposes of diagnosis the finger-tips of the physician will hardly be helped by an instrument as difficult to manage [illegible] tracings is [illegible] ventricular wave R, with expiration and inspiration in the case of oblique leading off of the heart. This is in conformity with my first observations which showed how the lead off was more or less favourable according as the heart is more or less tilted, and with the demonstration given by Bouchard some years ago on the Roentgen screen of the fact that the heart is pulled down and rendered less oblique with each inspiratory descent of the diaphragm.

A few words of explanation are necessary to make clear the system adopted by Einthoven in the presentation of the positive and negative features of his electro-cardiograms. [illegible] ribed in giving [illegible] the left hand [illegible] of course, leads from the apex. He systematically takes three electro-cardiograms, the first with the right and left hands, the second with the right hand and left foot, and the third with the left hand and left foot; in all three cases the first-named extremity is base and the second-named extremity is apex, and the connexion with the galvanometer is always made such that negativity of base shall read upwards and negativity of apex downwards.

I think that the principal service hitherto rendered by this beautiful instrument has been to confirm and harden our acceptance of the doctrine that the contraction of the heart is essentially a wave of activity sweeping along a muscular tube from its venous to its arterial end.

From Figs. 1 and 2 the almost exact identity between the sequences of events in the heart of the dog and in that of man is clearly apparent; in both cases the electrogram is composed of an auricular element P and of a double ventricular element R and T; the most probable interpretation of these three positive waves is that they signify negativity of the auricle P, followed by an initial negativity R of the base of the ventricular mass at the commencement of systole and by a terminal negativity T of the base at the end of systole. This double negativity, which was pointed out many years ago by Bayliss and Starling and Gotch, can be understood by reference to the development of the ventricle as a twisted muscular chamber of which the auricular and aortic orifices are closely juxtaposed towards the base of the organ, so that a wave of muscular action sweeping over the whole mass begins at the base and ends at the base. This is very clearly the case in the frog's heart, where the ventricular contraction can actually be seen to terminate by contraction of the bulbus arteriosus, and where, mechanically as well as electrically, the contraction of the base begins earlier and ceases later than that of the apex. Thus in the frog's heart, as in he human heart, the base of the organ is twice in unbalanced negativity, the two phases B B being separated by a brief systolic interval during which the action of the base is balanced by the simultaneous action of the apex, so that the normal sequence of action as regards the ventricular mass is B A B. Figs. 3 and 4 illustrate this probable interpretation, and bring out very clearly by an example the essential identity between the ventricular contraction of a frog's heart and that of a man's heart, in complement to Figs. 1 and 2, by which the essential identity between the cardiac event in man and in the dog is made evident. In both cases shown in these figures each ventricular contraction exhibits two prominent elevations (base twice negative) separated by a depression (apex negative). These elevations correspond with Einthoven's waves R and T (Figs. 1 and 2). In the description that I gave in my "Introduction to Human Physiology" (first edition, 1890, p. 389) the ventricular sequence is described as base-apex-base, or B-A-B, B and B corresponding with Einthoven's R and T—i.e., in Figs. 3 and 4 each elevation corresponds to B, A being the valley between.

It must be admitted, however, that this simple explanation of the double negativity of the ventricle is not all-sufficient, and that there are features such as the variability in direction of the ventricular wave R and T in pathological states that are more easily accounted for on the supposition that "His's bundle" radiating from the auricular septum to the inner surface of the ventricles is a special channel of communication between auricles and ventricles, and that through this channel the ventricular mass can be brought into action simultaneously at many points or unequally and irregularly at different points. Normally the ventricular mass contracts as a whole, the systolic state being initiated and terminated at the base, but abnormally it is possible that an atypical systole may take origin at the apex or at other points of the mass by the channel of His's bundle, which although chiefly muscular as to structure, is also in part nervous, and is separate from the general muscular mass of the ventricle, apparently playing the part of a special conductor of impulses from auricle to ventricle. This is the explanation invoked by Einthoven, and one that I am disposed to accept as necessary, partly on account of the atypical systole occasionally witnessed on human electrocardiograms, partly on account of the undoubted sequence occasionally witnessed on the excised mammalian heart—

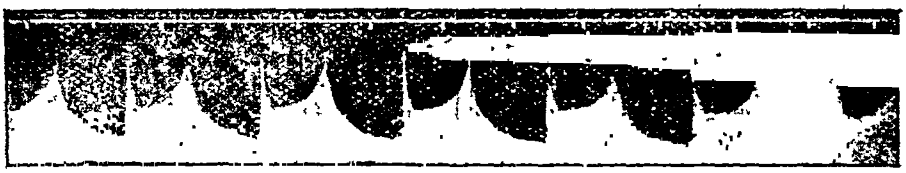
viz., negativity first of the auricle, then of the ventricle apex, and finally of the ventricle base.

The view that His's bundle is one channel does not, to my mind, necessarily entail regarding it as the only channel to the exclusion of the main mass of the vascular tube. Pathological observations are apparently confirmatory of the view that His's bundle is, so to speak, an extra channel or by-pass supplementary of the principal channel through the muscular mass of the vascular tube, for, on the one hand, in cases of allorhythmia where His's bundle has been found degenerated the degeneration has been found to extend to other parts, while, on the other hand, cases have been reported of well-marked degeneration of His's bundle where the cardiac rhythm had been previously observed to be normal.

In conclusion, it should be observed that the use of Einthoven's galvanometer is by no means confined to the investigation of the human heart, although no doubt this has hitherto constituted its most noteworthy application. The instrument, although its principle was previously utilised by Ewing and by Duddell, is practically a new departure in the hands of Einthoven as regards sensitiveness and precision and convenience. Essentially it consists of a silvered quartz fibre 15 centimetres long, weighing only 1/1000th milligramme, having therefore no appreciable lag or inertia and responding to a current as small as the millionth of a millionth of an ampère—i.e., far more sensitive even than the most sensitive mirror-galvanometers in ordinary use and superior in quickness to the most rapidly reacting capillary electrometer. In its less sensitive and handier forms Einthoven's galvanometer is by far the most efficient and convenient instrument for physiological purposes and is certain to displace sooner or later all forms of galvanometers and electrometers that are at present employed in the physiological laboratory.

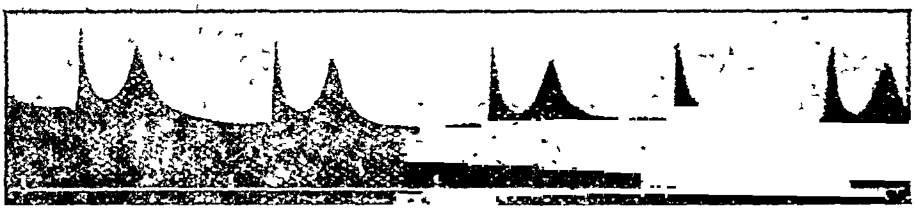
Grove End-road, N.W.

FIG. 3.



Electro-cardiogram of a frog's ventricle taken with a capillary electrometer.

FIG. 4.



Electro cardiogram of the human heart taken with a capillary electrometer.

THE CAUSE OF DEATH AFTER OPERATION IN ACUTE APPENDICITIS.

BY CHARLES A. MORTON, F.R.C.S. ENG.,
PROFESSOR OF SURGERY IN UNIVERSITY COLLEGE, BRISTOL; SENIOR SURGEON TO THE GENERAL HOSPITAL, AND THE CHILDREN'S HOSPITAL, BRISTOL.

AFTER operations for acute suppurative appendicitis some patients die with symptoms of profound toxic poisoning. The symptoms of an acute appendicitis are marked, but the child does not appear to be in a dangerous condition; an operation is performed, some focus of suppuration or a gangrenous appendix is found, pus is evacuated, and perhaps the appendix is removed. There seems good reason to expect recovery, and yet perhaps a few hours after the patient has regained consciousness, or it may be 12 or more hours later, the pulse begins to fail; there may be frequent vomiting (starting after the anæsthetic vomiting has ceased if it has been present), great restlessness, or drowsiness, or delirium, or coma, or jaundice, sometimes one of these symptoms, sometimes another, often several. The temperature rarely rises or, at any rate if it does, rarely exceeds what was present before operation, and more often does not reach above 99° F. There are no symptoms suggesting a spread of the abdominal mischief, nor is such spread found at the post-mortem examination. Abdominal pain, rigidity, and tenderness are markedly absent. These patients are not desperately bad at the time of the operation or immediately after it—i.e., they do not suffer from shock, and yet after an interval in which they seem to be progressing favourably these serious symptoms arise, and they do so, in my experience, almost always in children and not in adults. What are these symptoms due to, and what is their relation to the operation? These are the questions which I propose to consider.

It may be that the fatal result in some of the cases is in no way connected with the operation; for instance, in those dying three days later. They might have died in this way, at almost the same time, or even earlier, had no operation been performed, and no doubt few, if any, of them would have recovered without an operation, yet several of them died so soon after operation, whereas they were not *desperately* bad before, that one is driven to the conclusion that in some way or other the operation did hasten their end.

Excluding cases of diffuse peritonitis in which suppuration was extending widely in the lower abdomen, and cases of general peritonitis, and also those of mechanical obstruction from adhesions, and kinking in acute appendicitis, I have had 147 cases of operation in acute appendicitis—non-suppurative, suppurative, or gangrenous, and in these 147 there have been (up to a few months ago when this paper was written) 18 deaths. Ten of the deaths were of the nature I am considering in this paper, and two more cases referred to in this paper were deaths in diffuse peritonitis. It may be interesting to mention the other causes of death in the 147 acute cases. In two, rupture of the abscess occurred into the peritoneal cavity though external drainage was established; in two, acute bronchitis proved fatal; two patients died from prolonged suppuration; and one from general and one from portal pyæmia. There are only two cases in which the operation was followed by a spread of peritonitis; in one of these it was no more than would lead to protective adhesions in the neighbourhood of the drainage-tube, and in the other very little more and not enough to be the cause of death.

In some of the cases I am specially considering in this paper the symptoms are like those now recognised as due to late chloroform poisoning. Indeed, it is quite possible that the administration of chloroform has really brought on [illegible] in a patient rendered specially susc[illegible] [illegible]nous action of the chloroform by the action of a septic toxin on the tissues of the body. The septic toxin may so damage the tissues that the chloroform has a poisonous action it would not otherwise have. The fact that nearly every one of my cases has been a child is s [illegible] use, for it is well recognis [illegible] is much more common in [illegible] Harold J. Stiles[1] holds the view that the fatal result in many septic abdominal cases is brought about by the toxic action of chloroform in addition to septic poisoning. In cases of late chloroform poisoning fatty infiltration of the liver is nearly always marked, and we usually find acetone in the urine or the breath, and diacetic acid in the urine also. Some of my earlier cases of death with symptoms of toxic poisoning occurred before the condition of late chloroform poisoning was recognised, but in one of the more recent cases I failed to find any naked-eye appearances of fatty infiltration of the liver (Case 2 in abstract of cases) and in another microscopic section showed it to be very slight (Case 3 in abstract of cases). Acetone was present in the urine of the case in which there was no fatty infiltration of the liver. But if fatty infiltration of the liver is present it does not prove that the condition is due to late chloroform poisoning, for such a condition (though usually less marked than in delayed chloroform poisoning) is present in septic diseases, and acetone and diacetic acid may be present in the urine in so many different morbid conditions, or even in apparent health.

But we must also consider whether the symptoms could have been due to the absorption of a septic toxin, present before operation, but not absorbed until a raw surface was produced by the operation wound. The symptoms in all the cases could not have been produced in this way, for in one (Case 2 in abstract of cases), although the appendix was gangrenous, it was wrapped up in omentum, and there was no surrounding infection, and the whole of the septic focus was removed, leaving no pus-producing area to infect the wound; yet the girl died comatose in less than 24 hours. In another case (Case 7) there [illegible] at the time of remo[illegible] area infected from [illegible] gauze. In all the other cases there was the possibility of absorption of toxin through the recent wound, but if the symptoms were due to this, and this alone, such absorption ought to set in within a short time of the operation in all cases; for we know that it is before protective granulations form in a wound that it is best able to absorb poisonous fluids It might be that such symptoms would not start immediately after the production of the raw area, even if produced in this way, for the dose absorbed might for a short time be insufficient, and the lethal effect only produced after the absorption of some amount of the toxin in the course of several hours. But in Case 4 the symptoms did not come on for 24 hours after operation; in Case 9 not for 36 hours after, and in Cases 5 and 10 not for three days after. These intervals between the time of production of the raw surface and the time of the onset of symptoms seem to me too long to be consistent with the view that the two were cause and effect. It hardly seems likely that within three days, or even within 24 hours, enough toxin would not have been absorbed to produce symptoms when the toxæmia, when once established, was so great that death rapidly occurred, if the symptoms were entirely due to such absorption from the raw surface.

We must also consider whether in sponging out the pus in some of these cases I could have damaged the peritoneum, and led to absorption of toxin in this way. There was never any attempt to rub the peritoneum, only very gentle sponging, and this I do not think could have so injured it as to allow of toxin absorption to a greater extent than existed before. Moreover, the same objection would apply to this explanation as to that of absorption from the wound—the long interval before the onset of symptoms in some cases. Neither do I think destruction of peritoneal surface by the entrance of any antiseptic into the suppurating area can have led to increased toxin absorption. Several of the cases [illegible] were wrung out of no stronger lotion than 1 in 4000 biniodide of mercury, and wrung dry before being introduced into the peritoneal cavity.

Then the question must be considered as to whether any of these deaths were due to delayed or "secondary" shock. Only in one case was any marked failure of pulse present at the end of the operation—i.e., one could not say they suffered from shock at that time. This so-called "secondary shock" is a curious condition. Why should it occur? Is it really pure shock? Is it not more often sepsis with toxic absorption? The nature of certain of the cases could hardly be explained by such a thing. Frequent vomiting, jaundice, delirium, and coma are not symptoms of shock, primary or s[illegible]s were due t[illegible] was iodoform [illegible] drainage-tube, and in no other way was iodoform applied to the raw surface in the other cases.

It seems to me that when we come to ask ourselves what is the immediate cause of death in many cases, we can only give a most imperfect answer to our question. In very widely diffused or general purulent peritonitis we are not surprised if the patient dies, and we say that death is due to a toxæmia. But what is the nature of the poison, and does it act on the cardiac muscle or the nervous system? If on the nervous system, in what way does it produce death? Is it vaso-motor paralysis, as many believe it is in shock, or in what other way does it kill? Although the cause of death after severe injuries and operation (i.e., shock) has been so carefully considered and so fully discussed, yet the actual cause of death in many diseases has been very little investigated and about it very little is known. If a person has obstruction in the air passages and rapidly dies the mechanism of death is easy to understand; but why does a patient slowly fail and die because a malignant growth in his body has attained a very large size, or because there is inflammation of the membranes of his brain? And, as I suggested before, even if death in such diseases as septic peritonitis, spreading infective gangrene, and erysipelas is due to the absorption of some toxin due to the growth of micro-organisms, we know so little of the way in which it brings about the death of the patient that whenever a profound toxæmia is established, and we cannot drain away, or by stimulating excretion eliminate the toxin, its action is beyond our control. I do not forget the use of antistreptococcic serum, but I do not think many of us are able to place much reliance on its beneficial action. Moreover, it is more useful at an early stage of septic disease, for it is antibacterial rather than antitoxic in its action.

[illegible] me that though as yet the cause of these symptoms is doubtful, it might be wise to give ether by the open method to children suffering in this way. A general anæsthetic might be dispensed with altogether and spinal anæsthesia used in adults, but those cases which resemble late chloroform poisoning occur much more frequently in children, and children do not seem to me good subjects for spinal anæsthesia because they are so apt to get frightened and might not be very quiet. Moreover, in young children it would be difficult to say what would be the right dose to employ. Enough ether might, however, be given to produce anæsthesia for the lumbar puncture.

Can we prevent absorption of toxins from the raw surface of the wound? If facts supported the view that the symptoms are due to this, we might take strong measures to destroy its absorbing surface by applying a solution of chloride of zinc or pure carbolic acid, and packing between the drainage-tube and the raw surface with iodoform gauze. Even though absorption from the raw surface is quite a doubtful cause, it might be well, especially in children, whilst stitching up the wound to apply a little pure carbolic acid to the raw surface around the drainage-tube and to pack some strong iodoform gauze around the drainage tube so as to separate it from the raw surfaces. It might also be a wise precaution to employ Cathcart's suction drainage apparatus until the wound was granulating so as to drain the pus right away from the wound, or if the peritoneal cavity is well shut off from the abscess and frequent, or even might be employed to wash out in a very dilute form all *toxins*.

I have so far been writing of cases of death after operation in well-localised appendicitis or appendix abscess. But we must recognise the fact that in some cases of diffuse peritonitis the patients die rapidly after operation not from continued spread of the peritonitis but with simply a rapid and failing pulse and without vomiting, abdominal pain, or increasing distension (Case 11), and at the post-mortem examination there is very little extension of the peritonitis as revealed at the operation, and the actual cause of death is a question for consideration in the same way as in cases of localised appendicitis. I know how insidious the symptoms may be in some cases of spreading suppurative peritonitis, only a failing pulse and perhaps increasing distension, but in these cases I am writing about the post-mortem examination showed, as I say, hardly any increase of the peritonitis from the time of the operation.

ABSTRACT OF CASES.

CASE 1.—A boy, aged 12 years, was admitted to the General Hospital, Bristol, on Jan. 1st, 1908, with a very large appendix abscess which was opened and drained under chloroform. His condition was not very bad before operation. The temperature was 101° F. The pulse began to fail about 12 hours after operation, vomiting of dark fluid set in and con- [illegible] the next day his pulse could hardly be counted. [illegible] fusion was resorted to and several pints were [illegible] died within 48 hours of the operation without cerebral symptoms. At the post-mortem examination no spread of infection was found to have occurred within the abdomen. The abscess sac had not been packed with iodoform gauze, as it was well shut off from the peritoneal cavity at the time of the operation, but a very small piece had been used to pack the opening through the abdominal wall around the drainage-tube, as the tissues were sloughy and there was a little persistent oozing.

CASE 2.—A girl, aged 12 years, was admitted into the Children's Hospital, Bristol, on Feb. 11th, 1908, with a gangrenous appendix and a history of repeated rigors. There was a temperature of 103·8° F. on that morning, but she did not seem desperately bad and had a good pulse. I removed the appendix under chloroform; it was wrapped up in omentum and there was no surrounding infection. Unless portal pyæmia had already started I expected a good recovery. The pulse kept all right for several hours after the operation, but within 12 hours of the operation the patient became comatose with failing pulse and died. The temperature was raised, but not above 102°. Some acetone was found in the urine passed just after the operation. Vomiting was present, but this may have been ordinary anæsthetic vomiting. The liver presented no naked-eye appearance of fatty change. A little greenish-grey adherent clot was found in the portal vein, but no signs of embolic infection in the liver.

CASE 3.—A boy, aged six years, was admitted into the General Hospital under my care on May 19th, 1908, with diffuse purulent peritonitis in the lower abdomen and right loin from perforation of the appendix, which was removed. His pulse at the end of the operation was 140, but fairly strong. The operation was performed at 6 P.M. under chloroform. The patient had a very restless night, but vomiting was not frequent, and the pulse remained about 120 up to 8 A.M. On that morning the patient became unconscious with some retraction of the head and occasional rigidity of the arms, and he died in the afternoon. There was vomiting of dark fluid but not frequent vomiting. The temperature did not exceed 100·4°. There was no smell of acetone in the breath. The urine could not be obtained for examination during life, and a specimen removed from the bladder after death was unfortunately thrown away. The post-mortem examination showed very little, if any, extension of the peritonitis. The upper abdomen was free [illegible] trace of lymph on the spleen. There was [illegible] the base of the right lung. The pathologist [illegible] liver showed degeneration of liver cells in the centre of the lobules but very slight increase of fatty tissue, and that neither heart muscle, pancreas, or kidneys showed any degeneration on microscopic section.

CASE 4.—On August 23rd, 1907, I went into the country and operated on a boy, aged 12 years, with a large but well-localised appendix abscess, under chloroform. The pulse was only 100 and quite strong at the end of the operation. The patient seemed to be progressing satisfactorily when I saw him again next day, but that evening he became delirious, [illegible] night; he then became comatose and die[illegible]y. There was occasional retching. There [illegible] in the breath. The urine could not be obtained for examination. There was no jaundice. The highest temperature after operation was 101° F. No post-mortem examination was possible. Iodoform gauze packing was not used in this case; only a drainage-tube was inserted.

CASE 5.—A boy, aged 12 years, was admitted to the General Hospital on March 2nd, 1907, with a localised appendix abscess; operation was proceeded with on March 3rd under chloroform. Iodoform gauze packing was left in for three days, and when removed it still smelt strongly of iodoform. The patient went on well until the 6th (when the packing was removed) and then he began to get restless and vomiting set in. The pulse was 120. The highest temperature after the operation was 99·4° F., except a few hours after the operation when it was 100°, and at the time of death it was 101°. On the 7th the condition of restlessness continued and the pulse was 140. Jaundice was then also present and the vomiting had become frequent, the vomited matter being of a dark-brown colour. These symptoms continued until death took place on the 10th. The abdomen remained [illegible] the [illegible]-mortem examination we found that there ha[illegible] of a dry peritonitis up to the edge of the liver and somewhat over the stomach, but this seemed hardly enough to give rise to the symp[illegible] toxic poison from the [illegible] there had been no sig[illegible] only some moderate distension was present. No mechanical obstruction was found in the bile-ducts.

CASE 6.—A boy, aged ten years, was operated upon in the Children's Hospital on Dec. 5th, 1898, for localised appendix abscess under chloroform. A drainage-tube was inserted wit[illegible] The condition of the patient was goo[illegible] Vomiting of black material began 12 ho[illegible] not very frequent. The pulse began to [illegible] the end the patient became uncons[illegible] screamed loudly. He died 40 hours afte[illegible] ture remained at about 100° F. after the operation. The post-mortem [illegible]ritoneum, only some [illegible] the abscess had been [illegible]

[illegible]s, was operated on in the General Hos- [illegible] partly gangrenous appendix was removed [illegible] no suppuration outside the appendix. A very little iodoform gauze packing was left in and a drainage-tube. The patient's condition was good at the end of the operation. The gauze was removed two days after the operation. Up to that time there had been no symptoms since the operation, but soon after the removal of the gauze the patient became restless, two hours later [illegible] he became comatose and died. [illegible] f temperature until just before [illegible] only showed local suppuration [illegible]

CASE 8.—A boy, aged seven years, was admitted into the General Hospital in October, 1902, [illegible]ndix was removed and the abscess [illegible]rried out at 7 P.M. and the patient's [illegible] He was rather restless but otherw[illegible] surgeon at 11.30 P.M., and a very small hypodermic injection of morphine was given. I could not ascertain what the condition had been during the night but he died at 8 A.M. The post-mortem examination showed no spread of peritonitis from the original focus.

CASE 9.—A girl, aged 14 years, was admitted to the General Hospital on Dec. 11th, 1903, with a large appendix abscess. The appendix was removed and the abscess was drained. The patient was in a satisfactory condition [illegible] next day. [illegible] which was [illegible] lessness and a very rapid pulse (without a temperature above [illegible]) set in at 2 A.M. on the second night and the patient died on the following evening without further symptoms. The post-mortem examination showed no extension of infection within the abdomen.

CASE 10.—A woman, aged 30 years, was admitted to the General Hospital with a ruptured appendix abscess, and pus was sponged out of the pelvis and right loin. The patient went on satisfactorily until the third day after the operation, when she became jaundiced. Later she became comatose, and she died on the fifth day with a temperature of 105° F. The post-mortem examination showed some lymph on a few pelvic coils. This was noticed to be starting at the time of the operation, and it had increased afterwards, but was certainly not enough to cause death. There was no suppuration in the liver.

CASE 11.—A boy, aged ten years, admitted to the General Hospital on Feb. 10th, 1906, with diffuse peritonitis from appendix disease, was operated upon by sponging out the pus, removing the appendix, and draining. The patient died in 24 hours with a gradually failing pulse from the time of operation, but there was almost no vomiting, and no signs of increasing peritonitis were met with. There was very little, if any, extension of t[illegible] the post-mortem examination from what was [illegible]

CASE 12.—A boy, aged fi[illegible] to the Children's Hospital on Dec. 18th, 1902, with a large appendix abscess, resonant with the gas of decomposition, which was drained. On the next day the patient had a very rapid pulse, vomiting was present, and the abdomen was tender, and I foun[illegible] had set in. Death took place 36 hours after [illegible] of the [illegible]e iliac general peritoneal cavity was found. [illegible] muscle in the floor of the abscess sac. The highest temperature after the operation was 101° F.

Types of cases.—Not very bad at the time of operation or just after (with the exception of Case 11, in which the pulse was very feeble after the operation), though acute illness was present. Little or no pyrexia after operation. No spread of disease, present at the operation, was found post mortem.

Symptoms.—1. Rapid failure of pulse and frequent vomiting (Cases 12 and 1). 2. *Rapid failure of pulse and coma* and perhaps delirium, and vomiting: Case 2 (anæsthetic vomiting); Case 3 (some vomiting), and Case 4 (some retching). 3. Great restlessness, failure of pulse, jaundice, and then coma (Case 7). 4. Great restlessness and rapid pulse, without vomiting or cerebral symptoms (Cases 8 and 9).

Cases with very slight spread of peritonitis after operation, and not enough in any case to cause death or to account for the symptoms.—*Symptoms.*—1. Jaundice, coma, and very high temperature at end of case (Case 10). 2. Frequent vomiting, delirium, and coma (Case 6). 3. Jaundice, frequent vomiting, slow failure of pulse with almost no pyrexia (Case 5). 4. Rapid failure of pulse, continued vomiting, and other symptoms (Case 11).

PS.—Since writing this paper Professor W. E. Dixon and Dr. Harvey have published a paper[2] on the treatment of acute toxæmia. That paper does not deal with the forms of toxæmia referred to in the present paper, and therefore does not give any assistance in considering the cause of death in these septic cases; but the authors show that the effect of the diphtheria toxin frequently causes death by paralysing the vaso-motor centre, and therefore that such patients die in the same way as they do in surgical shock; and that injection of saline solution into the circulation is useful in the one condition as it is in the other. Perhaps it may be found that some of the septic toxæmias cause death also by paralysis of the vaso-motor centre.

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[2] Proceedings of the Royal Society of Medicine, December, 1908.

Bristol.

PROSTATIC CALCULI:

THREE CASES ILLUSTRATING A NEW METHOD FOR THEIR SUCCESSFUL REMOVAL BY THE COMBINED SUPRAPUBIC AND PERINEAL ROUTES.

By J. LYNN THOMAS, C.B., F.R.C.S. Eng.,
SURGEON TO THE CARDIFF INFIRMARY AND TO THE ROYAL HAMADRYAD HOSPITAL, CARDIFF.

AT the Sheffield meeting of the British Medical Association I described a simplified method of performing prostatectomy by the combined suprapubic and perineal routes, and contended that from a theoretical standpoint the combined method should be the operation of choice, and in support of my conclusions I recorded 12 consecutive and successful cases. I now desire to record my experience of three cases of prostatic calculi treated successfully on the same lines as were indicated in that paper[1]—viz., firstly, by suprapubic cystotomy, and followed by perineal opening made transvesically and large enough to admit the forefinger from the perineum.

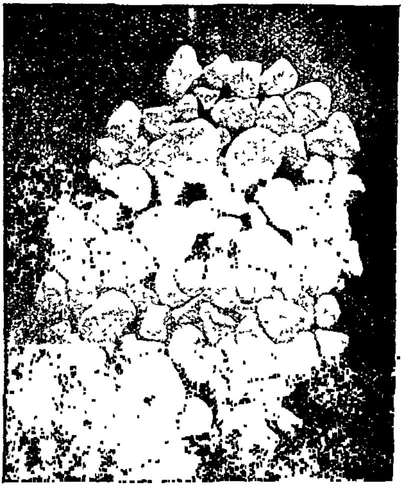
In my method of operating the patient is lying on his back with his thighs separated during the whole operation. I wish to draw special attention to the difference that exists between the perineal opening made in cases of prostatectomy and in those now under consideration; in the former the perineal opening does not involve the urethra at all, as it extends from *the bottom of the bed of the prostate*, whilst in the latter the opening is made through the membranous urethra. In the three cases which I now record I could demonstrate that the mucous membrane of the urethra was pushed down as far as the incised perineal skin before the point of the special prostatectomy forceps passed transvesically into the urethra, the well-known normal distensibility and strength of the posterior urethra allowing it to be readily done. My first case is a striking illustration that during the operation there is no serious disturbance of the anatomical conditions or relationship between the urethra and rectum, because in it there existed a recto-urethral fistula at the time of operation, which subsequently healed without giving further trouble. There need be no unnatural tension upon the parts between the rectum and the urethra if counter-pressure be applied to the perineum during the passage of the curved forceps through the bladder towards it. My present observations are confined to the treatment of these cases.

CASE 1. *101 prostatic calculi; recto-urethral fistula; stricture of vesical urethral opening.*—The patient, aged 63 years, had suffered for over 20 years from "stricture at the neck of the bladder" and had to carry with him, and use, catheters on and off owing to stoppage. For some months before operation he had been passing air bubbles through the urethra and quantities of slimy mucus with feculent odour and with acid urine. Per rectum the prostate felt enlarged and was exquisitely tender. A No. 6 catheter could with much difficulty be passed into the bladder. Dr. C. C. Shepherd and I had advised operation about four years before the patient submitted to it.

After performing suprapubic cystotomy the vesical urethral opening was found to be contracted, rigid, and unyielding to dilating force, so it was incised sufficiently to admit the tip of my forefinger which I then passed into a biggish pouch in the prostatic urethra bulging towards the rectum, and which was full of calculi represented in Fig. 1. Owing to the difficulty in removing the concretions and also on account of the highly septic condition of the cavity I passed my special forceps for prostatectomy to the bottom of the cavity and opened the perineum. By digital manipulation (the forefingers) I removed the 101 calculi through the bladder and the perineum. After thorough irrigation I fixed a five- [illegible] rubber tube into the bladder [illegible] ry was rapid and there were [illegible]e operation. Dr. Shepherd gave ether anæsthesia.

CASE 2.—The patient, aged 62 years, had suffered for about 12 years from irritability of the bladder, night micturition, and had had catheters used on and off for years. His trouble began when he was in South Africa. Mr. G. R. Sparrow of Cardiff, and Mr. T. J. Webster of Merthyr Tydvil were of opinion that he had enlarged prostate with chronic septic cystitis, but they were not allowed to pass a metal catheter.

FIG. 1.



On Jan. 23rd, 1908, I performed suprapubic cystotomy under ether anæsthesia, administered by Mr. Sparrow, and was assisted by Mr. Webster. After removing a large, soft, friable, vesical calculus (Fig. 2, marked "Vesical," weighing over one ounce when dry), the bladder and prostate seemed to be normal, and at my request Mr. Webster again examined per rectum and reported that the apparently enlarged prostate which had been previously diagnosed could still be felt. I therefore carefully inspected the base of the bladder and found a small opening about three-quarters of an inch behind the urethral orifice which led into a sacculus with a hard stone (Fig. 2, marked "Sacculus," weight half an ounce when dry) in it, situated between the prostate and rectum. This was removed by incising the opening into the prostatic urethra; and afterwards I again found eight small faceted calculi (Fig. 2, marked "Prostatic"). Perineal drainage was then established by pushing the special forceps through the urethra towards

FIG. 2.

V, Vesical. S, Sacculus. P, Prostatic.

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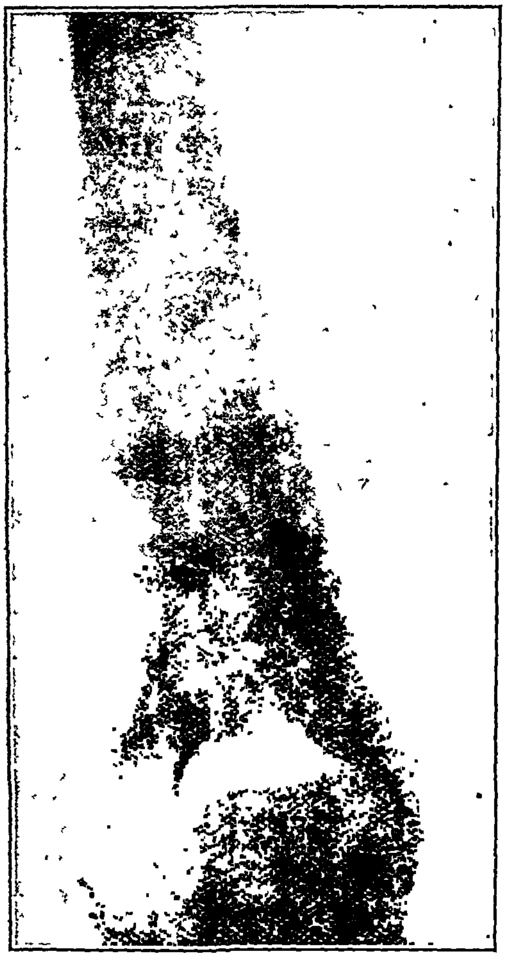
[1] For details see Brit. Med. Jour., Oct. 3rd, 1908.

with no suspicion of fluctuation or egg-shell crackling about it, the skin and muscles were not implicated, but the superficial veins were a little prominent and there was an enlarged gland in the right axilla. The arm was wasted and the muscles were weaker than those of the opposite side; the movements of the elbow-joint were unimpaired. Pain was only complained of when using the arm or on applying firm pressure. No other bone abnormality could be made out. There was no history of injury or of fracture, and the question of syphilis was carefully gone into, but no evidence of it could be obtained. The skiagrams showed marked changes in the structure and outline of the bone, and suggested to most of those who saw them the presence of a new growth.

FIG. 2.



Reproduction of skiagram taken on Feb. 1st, 1909, showing maintenance of improvement.

To exclude the possibility of a syphilitic origin mercury and potassium iodide in increasing doses were given for ten days, but as at the end of that time the swelling had increased both in measurement and as seen by skiagram, that treatment was abandoned, and the patient was advised to submit to an exploratory operation, to be followed if necessary by amputation; this, however, she refused to agree to, and, as an alternative, treatment by Coley's fluid was suggested and adopted.

We began with half-minim doses and increased them by quarter, half, and one minim until a maximum of nine minims was reached; the first injections were given into the arm outside the limits of the growth, but the later ones were injected into it, and 23 injections in all were given. They were followed by pain and swelling at seat of injection, with general malaise and headache, nausea and vomiting, and pains in the limbs and joints followed by the appearance of subcutaneous hæmorrhages resembling bruises, but with only slight rise of temperature and increase of pulse-rate. These after-effects were so unpleasant that we had some difficulty in persuading her to continue the treatment; she, however, submitted to it until August 13th, when the swelling had almost disappeared and the structure and outline of the bone had resumed its normal appearance.

A skiagram taken on Feb. 1st, 1909, shows that the improvement has been maintained.

Devonshire-street, W.

A NOTE ON NORMAL MENSTRUATION WITH ABSENCE OF THE BODY OF THE UTERUS.

BY ALEXANDER BROWN, M.B. LOND., M.R C S. ENG.

THE patient, who had been married for nearly three years, consulted me on account of sterility. She was most desirous of having a child. Bred in the country and of fine physique she had been perfectly regular in her periods from the age of 13 years. She was now 28 years old, about the same age as her husband, who was tall but not so strong-looking as herself. The periods lasted for four or five days and an experienced nurse testified to the normal loss. This nurse, who had known the patient from infancy, informed me that although she knew her to be an affectionate wife and very fond of children she was sexually cold and during childhood had pursued the sports of boys and had formed no girl acquaintanceships.

I examined the patient in bed, and bimanually could find no uterus and I failed to introduce a sound. On withdrawing my finger there was a little blood; the vaginal cervix appeared to be of normal size and shape but was congested, and the blood evidently came from the external os I advised a full examination under an anæsthetic. Accordingly a few days later I placed the patient under ether, and my friend Dr. A. Alexander conducted the examination, the result of which I afterwards confirmed. He found complete absence of the body of the uterus. On bimanual examination the state of the pelvic contents was striking; the examining finger and the outside hand clearly approximated with the vaginal cervix alone between them. There was absolutely nothing to be felt within the pelvis to represent the body of the uterus.

I am aware that a post-mortem examination could alone disclose the exact representation of the parts and that developmentally a uterus might then be demonstrated, but the case appears to be of considerable interest in that so gross a deficiency existed with normal monthly periods. No doubt the vaginal cervix supplied the monthly loss.

Bartholomew-road, N.W.

A FUTILE INQUEST.—An inquest reported in the *Western Gazette* of May 7th affords another proof that the coroner's law is in urgent need of reform. The jury were directed to inquire into the death of a woman, aged 28 years, who had died suddenly with symptoms of severe abdominal pain before the medical man who was summoned could reach the house at Thornford where she resided as housekeeper. No poisonous substance was found in the room. The witnesses who spoke as to the nature of the symptoms were unskilled, and no medical evidence was called nor was any necropsy made. The jury told the coroner that "Deceased appeared to have died from natural causes," and the coroner replied that "he had entered the statement that deceased was suddenly taken ill and suffered from severe pains, probably due to indigestion, which caused acute gastritis, and that she died in a natural way and not in an unlawful way." This elicited a protest from the foreman to the effect that "the jury said 'appeared' to have died," to which the coroner replied that "it was the same thing." Accepting the report as correct, the jury appears to us to have had a much sounder view of the nature of the evidence than the coroner. However the woman died, the coroner has taken a heavy responsibility in neglecting to prove his supposition as to the cause of her death in the only possible way—i.e., by ordering a post-mortem examination to be made. In the absence of any medical evidence the jury in effect very properly refused to bring in a verdict, and we trust it will afford a salutary lesson to the coroner in question on the futility of guess-work inquests.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Exhibition of Cases.

A MEETING of this section was held on May 14th, Sir Thomas Barlow being in the chair.

Dr. Frederick Spicer showed a case of Paralysis of the Right Spinal Accessory Nerve. The patient was a man, aged 32 years, living in the Midlands, who had always enjoyed good health until the middle of January last, when he complained of sore-throat, weakness of voice, and pains on the right side of the head, right shoulder, and right arm. He was treated by his medical attendant until March 4th, but as he did not improve he was sent to London and was there found to have paralysis of the right vocal cord, the right side of the soft palate, the right sterno-mastoid, and the right trapezius. There was very considerable wasting of the muscles, with marked drooping of the right shoulder. He had had influenza some four months previously; there was no history of syphilis or injury.

Mr. Walter G. Spencer showed a case after reduction of an old Subcoracoid Dislocation of the Right Shoulder, complicated by fracture of the upper third of the humerus, by excavating the glenoid cavity through a posterior intermuscular incision. The patient was a man, aged 43 years, who was riding a motor cycle when a collision occurred; he was thrown violently and received severe injuries—viz., fracture of the base of the skull with concussion, fractured ribs, dislocation of the head of the right humerus, oblique fracture of the upper third of the shaft of the right humerus, and widespread ecchymoses about the right shoulder. While he was recovering from his head injuries the fracture of the humerus slowly united, with overlapping of the fragments to the extent of about two inches. As soon as he could he began to make every effort to move his shoulders and to use his arm, but after six months he had not made any progress; indeed, he thought that his arm was becoming more fixed to his side. The humerus was fixed to the scapula, which could be moved very little, and the oblique union of the humerus was not firm. Since the operation his arm could now be raised to the vertical without moving the scapula much more than normal. He could swing on a horizontal bar and use a 4 pounds dumb-bell. He had returned to work and each week had shown increasing ability to carry out overhand movements.

Dr. N. S. Finzi showed a case of Inoperable Recurrent Scirrhus of the Breast under Treatment by Radium. The patient, a woman, aged 78 years, noticed about eight years ago that the breast felt hard. About three years ago she had some pain and consulted her medical attendant, who removed the breast in April, 1906. About 12 months ago she noticed some hard lumps under the skin, and when seen at the Metropolitan Hospital by Mr. Peter L. Daniel in November, 1908, she had several masses of about the size of walnuts firmly bound down in the centre of the scar and the axilla, and a couple of nodules under the skin at the lower end of the scar. Under x ray treatment (four full doses to different parts of the scar) great improvement resulted and the subcutaneous nodules disappeared. The patient, however, did not attend for some weeks and the growth again became rapid and much larger than in November. She had two more doses of x rays on Feb. 24th and 28th of this year. From March 10th 5 centigrammes of radium, filtered through a silver tube 0·6 millimetre thickness and 1 millimetre thickness of india-rubber, were applied over the large mass for 53 hours, the position of the tube being altered once. On March 12th a dose of 41 hours was commenced in the axilla. The radium used was the pure bromide and was contained in a little glass tube within the silver tube. A considerable dermatitis developed in the two places, commencing almost at once and reaching a maximum in about three weeks. The area of this, however, was quite small and could be excised if required. By April 2nd the tumour had almost disappeared except for a little thickening between the two places where the application had been made. That proved to be a definite nodule, and a dose of 26 hours with filters of 0·6 millimetre silver and 1 millimetre lead, and six hours with 0·6 millimetre silver was given, starting on April 29th.

Dr. Finzi also showed a case of Epithelioma of the Lower Lip under Treatment by Radium. The patient, a man, was admitted to the Metropolitan Hospital in March last with a growth on the lower lip 4·5 by 2·5 centimetres in size. This had started as a pimple, which gradually became larger and became crusted over, and had been growing for 15 or 16 years. The rapidity of the growth had considerably increased for the last eight or ten months. There were enlarged glands under the jaw on both sides, but larger on the left than the right. Five centigrammes of radium bromide filtered through 0·6 millimetre silver were applied to the growth for 15 hours from March 1st, and the same quantity filtered through 0·5 millimetres of silver and four layers of lint for 28 hours from April 1st to the glands on the left side of the neck. Epilation was noticed on the neck about April 29th and on the left side of the upper lip on May 5th. Considerable improvement resulted both in the growth and the glands. Commencing on May 4th, another application of 22 hours was given to the lip, the filter this time being 0·6 millimetre silver and 0·5 millimetre lead and two layers of lint.—Mr. Rickman J. Godlee observed that in Paris radium was applied, not only by means of a small portion of the substance in a capsule, but also by spreading the radium into pads of different shapes and sizes.—Mr. W. G. Spencer mentioned a case of epithelioma of the tongue under treatment by radium at Paris for two months, with the result that the disease had spread to the glands of the neck.—Mr. C. Gordon Watson said that the latter of the two cases shown by Dr. Finzi was admitted under his (Mr. Watson's) care for treatment. The glands in the neck after the application of radium had not increased in size. Replying to Mr. A. E. J. Barker, Mr. Watson said that the growth was better in regard to surface and bulk and less in length and breadth.—Dr. A. Howard Pirie said that it was necessary to apply the radium in a capsule because it was apt to lose its power when spread out on a pad.—Mr. A. Pearce Gould pointed out the inadvisability of discussing any case still under treatment. He thought that there was but little evidence of actual healing over the growth.—Mr. E. H. Shaw said that microscopic examination did not show evidence of any actual healing at the edge of the growth. The radium treatment seemed to have assimilated the surrounding tissues in trying to overcome the growth.—Dr. Finzi said that in Paris nævi were treated with radium on pads. In Paris it was claimed that radium treatment was for precancerous conditions. As soon as the growth had infiltrated the tongue muscles it was past treatment.

Dr. Finzi showed a case of Arthritis successfully Treated by Iodine-lithium Ionisation.

Dr. Alexander Fleming demonstrated a simple method of Serum Diagnosis of Syphilis by the "Complement Deviation" Method. This differed from Wassermann's original method in the following respects: (1) an alcoholic extract of normal heart muscle was used instead of a saline extract of syphilitic liver; (2) the natural hæmolytic power of human serum for sheep's corpuscles was made use of, thus doing away with the necessity for the hæmolytic serum of a rabbit immunised against sheep's corpuscles and the guinea-pig's serum (complement); and (3) the amount of blood which could be collected in an ordinary blood capsule furnished an ample supply of serum for the test.

Mr. V. Warren Low showed a case of Pneumococcal Cystitis and Arthritis in a man successfully treated by a vaccine prepared from the patient's own organism. The conduct of the case by vaccine therapy was controlled by the estimation of the opsonic index.

Mr. Sidney A. Boyd exhibited a case showing Sprengel's Deformity of the Shoulder and Hirschsprung's Disease, with definite rectal obstruction.

Dr. F. Parkes Weber showed a woman three years after treatment by omentopexy and peritoneal drainage for Chronic Ascites connected with Hepatic Cirrhosis. The patient, aged 42 years, was admitted to the German Hospital on account of ascites in October, 1905. On Dec. 1st omentopexy was performed by Mr. F. Michels according to the method recommended by A. Narath[1] (a colleague and particularly in private practice. He emphasised the necessity of using the drug in a freshly prepared form.—Dr. HAULTAIN had used 1-200th of a grain of scopolamine with 1-6th of a grain of morphine during the first stage, when patients were often too ready to cry out for relief. Its effect lasted about from five to seven hours, and it had the advantage that during the second stage, if the pains were very severe, then a very small quantity of chloroform was required to relieve them. On several occasions he found the effects pass off and that when the second stage came on the patient exaggerated the suffering. In several cases the condition of the child gave very great anxiety when the dose mentioned above had been given, and he found it difficult to resuscitate the infant. If the child was born within two hours no results were evident, or after five hours when the effects had passed off, but it was between these times that he had met untoward results. He considered the drug of the very greatest value in helping suffering women.—Dr. ELSIE M. INGLIS had experience of its use in 43 cases, giving it in doses of 1-100th grain of scopolamine and 1-4th grain of morphine, repeated if necessary in three hours. It was useful in cases with a very prolonged first stage; these mostly ended with chloroform administration in the second stage, and she had also found that much less was then required. She had noticed rapid dilatation of the os under its influence.—Dr. J. HAIG FERGUSON had found it inconstant in its action, or this might have been due to idiosyncrasy of the patient. He used 1-100th grain of scopolamine and 1-6th grain of morphine, repeating the same dose of scopolamine if necessary without the morphine. As the patient was not so conscious of the pains then, these cases required more careful attendance of the medical man. One patient had expressed herself to the effect that she had some feeling of pain but in a far-away manner, as if the pains were in the other side of the room. He had found as much thirst from large as from smaller doses. It was useful in cardiac cases and where one had to hasten labour.—Sir HALLIDAY CROOM replied.

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[1] Centralblatt für Chirurgie, Leipzig, 1905, vol. xxii., p. 433.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

Physical Deterioration.—The General Anæsthetics Bill.

A MEETING of this section was held on April 30th, Dr. W. R. DAWSON, the President, being in the chair.

Mr. J. B. STORY read a paper on Physical Deterioration. He said that there were no means of ascertaining with perfect certainty whether the population was physically degenerating or not. No statistics were available in the United Kingdom on this point. But it was known that urbanisation was increasing, and plenty of evidence existed to show that this tended to physical degeneracy. In support of this German statistics were quoted. Attention was called to the reports of three Parliamentary Commissions—(1) Interdepartmental on Physical Degeneration; (2) a Royal Commission, Physical Training, Scotland (1903); and (3) the recent Poor-law Commission. The first recommended a permanent anthropometric survey of all children and young persons, methodical physical instruction in all schools, and compulsory drill and physical exercises for all growing lads; the second made almost identical recommendations; and the third, in a majority report, stated that the most effective and thorough method of infusing into boys approaching adolescence a sense of discipline and self-restraint, both physical and moral, and of improving their physique for subsequent industrial occupations, would be a universal system of a short period of military training. Mr. Story commented upon the utter lack of any systematic physical education in Irish schools and made the following recommendations which were afterwards adopted by the meeting:—1. That a permanent anthropometric survey should be made of children and young persons. 2. That physical drill should be compulsory, in conjunction with a proper system of medical inspection, in all schools, primary and secondary. 3. That all boys between the ages of 14 and 18 who were physically fit should be compelled to belong to boys' brigades or cadet corps or to attend classes where physical drill of a military character was conducted. 4. That all youths at the age of 18 years (rich and poor) who were physically fit should be compelled to undergo a period of military training.—Dr. N. McI. FALKINER spoke from personal experience of the value attaching to boy scouting. Apart from the question of a territorial army military training would be in every way an advantage.—Professor E. J. MCWEENEY said he became convinced of the great utility of compulsory military training when living in Germany. The lack of coördination was very marked in this country and far too many of the children of the poorer classes were allowed to wander about the streets to acquire an anti-social character of mind and to feel themselves as outside the scheme of things. The German system impressed him with the feeling of solidarity.—Surgeon-General BOURKE spoke of his experience of military training. There was a great difference between squads that had only a few days' service and those that had longer periods. He could assure them that even three months made a decided improvement, and the Swedish system had been found to be of great advantage.—Dr. R. B. M'VITTIE thought that the teeth were, perhaps, the most important indication of degeneration. He could not see how a man was going to stand hard work if he had not good opposing molars. It had been shown that 86 per cent. of the children in schools in Great Britain had very bad teeth, and he thought the figure showed that the race was degenerating at a rapid pace. If there was to be more prolonged physical drill it should be under the control of the medical profession.—Mr. M. J. NOLAN spoke of the good results of the Swedish system in his asylum in Downpatrick.—The PRESIDENT said he had been converted to the doctrine of compulsory military service by a residence in Germany. The great advantage of early training was that it got a boy at the stage when he combined the self-indulgence of the child with some of the force of a man. It was a critical stage, and drill would be the salvation of the young men of the country.—Mr. STORY replied.

Dr. T. P. C. KIRKPATRICK read a paper dealing with the General Anæsthetics Bill now before Parliament, in the course of which he opposed the proposed exclusion of dentists from the ranks of the anæsthetists. In his opinion the course of instruction laid down for dental students of the Royal College of Surgeons in Ireland was quite sufficient to permit the dentists of the future to be entrusted, with perfect safety to the public, with the important duty of administering anæsthetics.—Dr. J. CRAIG said that Dr. Kirkpatrick stood almost alone in his defence of the dentists who were not also registered medical practitioners.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on May 7th, Dr. J. Walker Downie, the President, being in the chair.—Dr. W. R. Jack read notes of a case of Tuberculosis of the Bladder treated by Vaccine Therapy. The patient was a young woman, aged 32 years, a teacher by occupation. She had suffered from frequency of micturition with scalding pain for four years. The attacks came on acutely and passed off after varying intervals. In May, 1908, the urine was acid, of specific gravity 1020, and contained albumin and pus. Tubercle bacilli were readily detected in the sediment. On cystoscopic examination tuberculous ulceration was found in the trigone of the bladder and in the neighbourhood of both ureters. Dr. J. H. Nicoll removed the right kidney, the pelvis of which was found to contain a uric acid calculus coated with phosphates. Scattered tubercles were found through the cortex. The right ureter was swollen and gelatinous. Convalescence was uninterrupted. The attacks of pain recurred and in January, 1909, cystoscopic examination proved the ureteral orifices to be normal, but adjacent to the right orifice were one or two small white tubercles and two flat yellowish ulcerated surfaces, with rounded margins and evidently tuberculous. The patient's index to the tubercle bacillus was 0 68. On Jan. 22nd 0·0006 milligramme of Koch's bacillary emulsion was injected. A few hours of meatal and hypogastric pain followed. The index fell to 0·60, but rose steadily to 0·88 on the 24th and 1·08 on the 28th, and 1·10 on the 31st. The frequency of micturition greatly diminished and pain disappeared. On Feb. 2nd 0·0001 milligramme was injected. The index did not rise beyond 1·06. After the injection of 0·00012 on Feb. 14th the index fell to 0·81 and rose to 1·34. Some injections of a vaccine grown from a pure culture of bacillus coli found in the pus were also given and effected a marked diminution in the quantity of pus. Examination at this stage failed to discover tubercle bacilli in the urine and the symptoms steadily improved.—The President read notes of a case of Epithelioma of the Naso-pharynx treated by Radium. The symptoms were severe frontal headache and inability to breathe through the nose. Both nares were found filled with pus. The naso-pharynx was almost completely filled with a new growth, a piece of which was removed and was found to be a cellular epithelioma. Operation was refused and radium was tried. A small quantity of bromide of radium was passed into the naso-pharynx through the inferior meatus. It was at first left in for 15 minutes, but later was left in for an hour each day. After a week the patient could draw air through the nose and the headache was less severe. After six weeks of this treatment the tumour had entirely disappeared. He returned again, however, with symptoms of intracranial tumour, from which he died.—The President also reported three cases of Primary Epithelioma of the Uvula. Each tumour was removed with scissors, cutting away a considerable piece of the soft palate round the tumour. One case died ten years after from a malignant tumour in the right posterior triangle of the neck. There was no recurrence in the throat. The second case returned four years after with a scirrhous cancer of the left tonsil, with involvement of the cervical glands, which with the tonsil were removed.—Dr. A. A. Gray showed stereograms illustrating Normal and Pathological Conditions in the Middle and Inner Ear.—Dr J. Wyllie Nicol showed a New Form of Test-tube. The open end was inclined at an angle of about 45° to the length of the tube for the purpose of facilitating dropping in fluids, as strong nitric acid, from a bottle.

Reviews and Notices of Books.

Mendel's Principles of Heredity. By W. BATESON, M.A., F.R.S., Professor of Biology in the University of Cambridge. Cambridge: At the University Press. 1909. Pp. 396. Price 12*s.* net.

Professor Bateson's admirable book puts out in the clearest possible manner the whole story of Mendelism up to the present hour, and we say up to the present hour because work upon Mendelian lines, having for its object the making of the study of heredity into an organised branch of physiological science, is now being undertaken by so many capable experimenters in so many different fields of research that it is not necessary for Mendelism to mean the same thing, as far as detail is concerned, for more than an hour together. The principles, however, it must be assumed, will not vary, for if they do all the interesting work that is being done for the development of their application and in accordance with their promise would thus become meaningless or misleading.

Most of us now know the curious story of Gregor Mendel, the Abbot or Prälat of the Königskloster in Brünn, who read in 1865 to a local scientific society two papers upon plant hybridisation, the result of experiments carried on in the gardens of his institution, and there and then founded a school of research which had no scholars for 35 years, but which is now gaining adherents rapidly. Mendel's work was published in the Transactions of the Brünn Scientific Society, and in that form probably reached our Royal Society and Linnean Society, among other learned bodies. It attracted, however, no attention, which, as Professor Bateson shows in his biographical notes upon Mendel, was all the more extraordinary, because the researches and conclusions were germane to controversies and discussions which happened to be at that very time occupying the minds of several naturalists of the first rank. The work of the Prälat of Brünn, however, went unnoticed, to be rediscovered in 1900, some 16 years after his death as an unappreciated and disappointed man. In 1900 three papers appeared within a few weeks of each other giving the substance of Mendel's theory and experiments as displayed in his communications to the Brünn Society, and confirming the conclusions arrived at in certain directions from independent investigations. From that time forward, mainly owing to the enthusiasm of Professor Bateson, labour upon Mendelian lines has been undertaken with steadily increasing frequency, so that the fundamental question which medical men are asking—viz., Is there any practical value in the work to us?—must soon receive a definite answer, because the various scattered investigations will, or will not, group themselves into a scientific exposition of some of the laws of heredity, and success or failure can be tested with an approach to certainty. Many allow that the Mendelians have got so far already that they have placed the study of heredity upon a definite scientific basis as a branch of biology, and Professor Bateson brings forward a large amount of evidence to prove this; but whether he succeeds or no is for the time being of small importance. What is of importance is that these interesting researches should be pursued till a reasonable time has come at which we may ask the Mendelians for light and leading based upon their work. That time has not yet arrived. The work is in its infancy, or to be accurate it has just reached its teens, and it is too early to worry about its character or to take stock of its achievement It is unwise to assume too much for a youthful prodigy, and unfortunately it is easy to stunt or delay youthful growth by neglect. Let us do neither. We are not called upon to be credulous and we must pray to be delivered from an unreasoning scepticism; the right attitude is surely to resolve to give every chance to the new school of thought.

There is one thing that we are entirely tired of hearing and that is that the pursuit of Mendelian doctrines is a denial of the truth or value of the immortal work of Charles Darwin, and we agree with Professor Bateson's belief that if Mendel's work had come into the hands of Darwin the history of the development of evolutionary philosophy might have been very different, for it is certain that the presence would have been admitted of variations occurring as discontinuous phenomena. Many mighty Darwinian conceptions were so certainly true, so positively explanatory of much that had hitherto been puzzling, and so full of promise in many directions, that almost immediately after their publication special experiments in the science of genetics ceased to take place, or at any rate ceased to be carried on by many men of science. The scientific world agreed to accept in its entirety and without controversy the doctrines of pure selection, so that those who were engaged upon the examination of individual and discontinuous phenomena were made to feel that they were simply wasting their time. It is impossible to conceive an attitude of mind that would have been more positively distasteful to the great Darwin himself than to have all individual experimentation directed towards the support of any theory; but undoubtedly this is what occurred, and because of this comparatively little systematic work has been done in the study of genetics. Mendelism, therefore, when re-discovered in 1900 had a practically clear field, and Professor Bateson's book describes the progress that has been made, and the directions in which future effort is intended. "For a period," he says, "we shall perhaps do well to direct our search more especially to the immediate problems of genetic physiology, the laws of heredity, the nature of variation, the significance of sex and other manifestations of dimorphism, willing to postpone the application of the results to wider problems as a task more suited to a maturer stage. When the magnitude and definiteness of the advances already made in genetics come to be more generally known, it is to be anticipated that workers in various departments of biology will realise that here at last is common ground. As we now know, the conceptions on which both the systematists and the speculative biologists have based their methods need complete revision in the light of the new facts, and till the possibilities of genetic research are more fully explored the task of reconstruction can hardly be begun. In that work of exploration all classes of naturalists will alike find interest. The methods are definite and exact, so we need not fear the alienation of those systematists to whom all theoretical inquiry is repulsive. They are also wide in their scope, and those who would turn from the details of classification as offering matter too trivial for their attention may engage in genetic inquiries with great confidence that every fragment of solid evidence thus discovered will quickly take its place in the development of a coördinated structure."

There is room, therefore, for many labourers in the vineyard. The descriptions given by Professor Bateson of the experimental work done by himself and Mr. R. C. Punnett with fowls, by Miss E. R. Saunders with certain flowers, by Miss F. M. Durham with canaries and mice, by Mr. L. W. Newman with moths, by Mr. C. C. Hurst, and many others, display the wide range over which observations are now being made, and furnish clear and interesting reading for those who have mastered, with the assistance of the first two chapters, the kind of way in which the Mendelian regards the origin of species. One section in Professor Bateson's book will certainly be read by medical men with close attention—i.e., the chapter upon the connexion between heredity and sex. In this chapter there are set out the reasons for believing that sex may be found to be a result of gametic differentiation. The evidence from breeding experiments and the part which sex plays in determining or limiting the descent of certain characters in heredity are considered, the thesis being that the facts as to the limitations which sex introduces into the descent of a varietal character are consistent with the possibility that sex itself is a Mendelian character. Now some Mendelian characters can be bred for with certainty, so that the next inference should be that the predetermination of sex can be arrived at. Professor Bateson wastes no time in dealing with the numberless theories which have been put forward to explain the causation of sex, nor does he dwell upon the enormous importance to the world that the possibility of deciding the sex of the offspring would be. He narrates the work done by the Mendelians, and in a brief summary dwells on the need of extended investigations.

We have read this book with the greatest possible interest and recommend it to all our readers.

The Causation of Sex: A New Theory of Sex based on Clinical Materials, together with Chapters on the Forecasting of the Sex of the Unborn Child, and on the Determination or Production of Sex at Will. By E. Rumley Dawson, L.R.C.P. Lond., M.R.C.S. Eng. With 21 illustrations. London: H. K. Lewis. 1909. Pp. 196. Price 6*s*. net.

The problems concerned with the causation of sex have been a theme of intense interest to medical writers from the earliest times, and the hypotheses which have been put forward by different authors are so numerous that it would be a matter of difficulty to enumerate them all—a task which we have no intention of essaying. Unfortunately, in many instances the attempts which have been made to solve the complex problems concerned have too often been carried out with an absence of that scientific precision which is essential if we are to arrive at the truth of this matter. It is futile to suppose that we shall ever make any progress in this inquiry except by the patient accumulation of data of proved scientific accuracy, but as a rule it has been attempted to make the facts ascertained fit in with some preconceived hypothesis.

An example of this kind is to be found in a new work on the causation of sex, by Mr. E. Rumley Dawson. In this book the author, with honest simplicity, entirely ignores and rejects the work that has been done upon animals other than man; denies that one spermatozoon alone can be concerned in fertilisation; throws aside as useless to his thesis all the researches that have been carried out with regard to the division of the chromosomes; and asserts that it is illogical to assume "that a chance single spermatozoon besides fertilising the ovum nucleus" can have anything to do with determining the sex of the child or the transmission of hereditary qualities. His theory is this: that the male parent has no influence in the causation of sex, and that male ova are restricted to, and come only from, the right ovary and female ova only from the left ovary. In support of this view, which, apart from the denial of any paternal influence, is only a resuscitation of one of much antiquity, the author has collected every conceivable fact, authenticated or unauthenticated, which can lend any support to his hypothesis. The objections are ignored or denied, and the explanation of such difficulties as the presence of both sexes in birds with one ovary is got rid of by the ingenuous explanation that what applies to fowls cannot apply to man. According to the author the right ovary is larger than the left, and therefore more boys are born than girls. Mr. Dawson further maintains that the action of the ovaries is an alternate one, and he believes that the right ovary ovulates one month and the left ovary the next month. Following on the view of the alternate ovulation of the ovaries, the author maintains that he can forecast the sex of the coming child. The researches of J. H. Teacher and T. H. Bryce upon early human ova and their proof that ovulation must occur at different periods of time during the month are left conveniently out of account.

It is sometimes mortifying to read the comments of scientific writers upon the value of so-called medical evidence, but when we read a work of this description we feel that they have some cause for their complaints. We could wish that Mr. Dawson had devoted some of the energy and time which he has expended on the production of this book to attaining an elementary knowledge of the laws of scientific evidence. What is wanted is, not theories based on insufficient data, but the patient, unwearying accumulation of large numbers of proved facts. When we have these as a basis on which to build, then, and then only, shall we be in a position to attempt to solve this absorbing problem.

Recent Advances in Organic Chemistry. By A. W. Stewart, D.Sc. With an Introduction by J. Norman Collie, LL.D., F.R.S. London: Longmans, Green, and Co. 1908. Pp. 296. Price 7*s*. 6*d*. net.

It is a pleasure to take up a text-book on organic chemistry which is not written in the wilfully orthodox method that presents at its best a mere collection of facts of which, as Professor Norman Collie says, often neither the explanation is vouchsafed nor the connexion with one another traced. Such a method is mainly responsible for having reduced organic chemistry in the minds of many to "a vast rubbish heap of puzzling and bewildering compounds. ...... The game of permutations and combinations goes on, the chief object apparently being merely to supplement the already existing myriads of laboratory-made organic compounds." The criticism is a just one when applied to even standard text-books, and the result is that the reader's memory is overtaxed and his faculty of originality and criticism remains unstirred. In Dr. Stewart's book we find summed up the present position of the researches which have been carried out in organic chemistry within the last ten years, and it must be admitted that this period has been a fruitful one. He has dealt with the subject not historically but from the synthetic point of view, each step in the synthesis being awarded a separate section, "so that at any moment the reader can see exactly how far he has advanced, and can easily refer back to any stage which he may wish to read again." This is the author's excellent plan of treatment which sharply differentiates his book from all those text-books to which we have alluded. The chapters speak in the clearest possible terms of the wonderful constructive work which chemists have achieved, and present the ingenious lines of reasoning which have resulted in this success. Among medical readers, perhaps, the chapter on the synthetic alkaloids will attract most attention, although of equal interest to medical science is the chapter on the polypeptides, a branch of research which promises some day to culminate in the building up of that important class of compounds the proteins. We note that in this section the author departs from the nomenclature recommended by a committee of the Chemical and Physiological Society in regard to protein substances. He refers, for example, to albumenous bodies and albumens. At one time the word "albumen" signified the white of egg, but it was agreed to drop the word altogether and to substitute as a general term "albumin" preceded by the word indicating its origin, and so albumen became egg-albumin, the albuminous substance of blood serum-albumin, and so forth.

The book is instructive in regard to past work and is calculated also to stimulate fruitful thought and action in the future. It is thus something more than a text-book, for it points the way to fields yet untilled in regard both to practical and theoretical considerations.

Movable Kidney: A Cause of Insanity, Headache, Neurasthenia, Insomnia, Mental Failure, and Other Disorders of the Nervous System; a Cause also of Dilatation of the Stomach. By C. W. SUCKLING, M.D. Lond., M.R.C.P. Lond., Consulting Physician to the Queen's Hospital, Birmingham, &c. 1909. Birmingham: Cornish Brothers, Limited. *Pp.* 155. *Price* 5*s.* net.

THIS is the second edition, although this fact is not stated on the title-page. Some three years ago we reviewed the first edition, and our opinions then expressed have undergone no change on the perusal of this issue. Those who examine the abdomen frequently know how very commonly a kidney may be found to be moveable and yet no symptoms are present that can be ascribed to this mobility; and in fact, this harmlessness of the condition is the rule. In such cases as these it is in the highest degree unwise to tell the patient that a moveable kidney is present, for if he or she be in the least degree neurotic the idea of possessing a moveable kidney will become an obsession and every ache and pain will be put down to it; many new aches and pains will also arise in response to the demand. That severe symptoms may result from a moveable kidney few will be disposed to deny, but it is easy to over-estimate the importance of the mobility, and this, we think, Dr. Suckling has done. Some of the cases reported in this book are certainly striking, and in some of them we are willing to agree that the operation of nephropexy was, in part at least, responsible for the improvement, but in most of them it is probable that the operation acted as a suggestion. We are told that the patient stays in bed for four weeks after the operation; this rest in itself should have a beneficial effect on many of the symptoms. However, we agree that cases do occur in which a moveable kidney is causing symptoms, and that fixation of the kidney will be very beneficial to the patient. But care should be exercised in the choice of cases, for it is easy to seize upon a common lesion like mobility of the kidney and account through it for various nervous conditions which may happen to be present.

Contributions to the Physiological Theory of Tuberculosis. By CHARLES CREIGHTON, M.D. Aberd., sometime Demonstrator of Anatomy, Cambridge Medical School. With 64 illustrations in the text. London: Williams and Norgate. 1908. Pp. 242.

AFTER studying the histogenesis of experimental tuberculosis in rodents and comparing it with the evolution of certain structures in the placenta of the same class of animal, Dr. Creighton reviews the whole subject of tuberculosis, including the "spontaneous" disease occurring in man and bovine animals. As a result of his own observations and of his interpretation of the results obtained by other workers he rejects the bacillary theory of the causation of the disease, and endeavours to establish in its stead a physiological theory, according to which the genesis of tubercles and the occurrence of secondary and necrotic changes in connexion with the lesions so induced are not specific, but own a physiological analogue in the histological processes occurring in the placenta. It is difficult to state Dr. Creighton's theory succinctly, or even to quote his own statements regarding it, since his style is discursive and he refrains from summarising his contentions into an actual definition or outline. The nearest approach to it is on page 134, where he gives what he refers to as the "point of view" from which he approaches the pathogenesis of bovine and human tuberculosis in the following words. "Nearly the whole of bovine tubercle is a chronic disorder of nutrition, to which breeding may predispose in a very high degree. A large part of human tubercle is also chronic and a disorder of nutrition to which also breeding predisposes greatly." Further, on page 135, after the statement that "No experiments on the smaller mammals can ever reproduce the manifold circumstances of human and bovine tubercle," he explains the results obtained in experiments by saying, "Means are used which in effect, if not in intention, produce a rapid dissolution of the blood extravasations, disintegration of the blood discs at innumerable centres and corresponding tissue reactions due to the efforts which the organism will always make (in non-lethal conditions) to meet an emergency or crisis, howsoever arising." In order to study the evidence upon where these somewhat cryptic generalisations are based it will be best to review briefly the material presented by the writer.

The book is divided into three parts, the first of which is devoted to the histogenesis of experimental tubercle. After summarising previous researches upon this subject, Dr. Creighton considers the special features of the tuberculous lesions in the animals most often chosen for laboratory studies of the disease—viz., rabbits and guinea-pigs—and then records his own observations on the histogenesis of tuberculous lesions in the lung of the rabbit and in other organs of rodents. In regard to the lung, after injection of emulsified bacilli into the vein of the ear the first condition which results is widespread microscopic thrombosis followed by diapedesis into the air cells and a dispersion of the nuclear chromatin of the leucocytes. These nuclear particles cling to red blood corpuscles, which they serve to build up into the large mononuclear protoplasmic (epithelioid) cells of rodent tubercle. Later a branched plasmodium appears in the thrombosed vessels, apparently due to fusion of these epithelioid cells. Such a blocked vein forms the centre of the actual tubercles, the bulk of which consists of a protoplasmic tissue, trabecular, syncytial, or plasmodial, with large nuclei usually vesicular and clear. The changes are summed up as "blood dissolution and plasmodial reconstruction." The second part is devoted to the placental analogies of these processes, and an attempt is made to establish the formation in the placenta of the plasmodial or syncytial tissue which it contains from the substance of red corpuscles extravasated from the maternal vessels. The necrotic, caseous, and hyaline changes which occur in the placental structures and are eventually the cause of its separation after its work is done are regarded as further supporting the analogy. The histological changes in the two forms of caseation are described as identical, and Dr. Creighton therefore refuses to regard the caseation of tubercle as a remote action of the bacillus. The third part deals with human and bovine tuberculosis. The histological characters of the various lesions produced in tuberculosis of different organs are analysed in the light of the views previously expressed. The giant cells are regarded as thrombi or blocks in the vessels, while the epithelioid cells are said to be formed from leucocytes and certain cells of the ground substance through the assimilation of the extravasated red blood corpuscles.

It will be seen that Dr. Creighton's views are startlingly heterodox. For him the bacillus is not specific in its effects—its primary action, and its only direct action, according to his view, is upon the red blood corpuscles, and similar results may be produced by other agencies. He scornfully rejects the doctrines of immunity and scoffs at the "metaphysical jargon" in which they are "couched." At the same time he brings no rebutting evidence, but simply ignores the subjects of bacterial toxins, of agglutination, and of the reaction to tuberculin, all of which rest upon definite experimental evidence which cannot be brushed aside by mere ridicule. His histological studies are of interest and are obviously worthy of careful consideration, but we cannot regard his contention of the non-specific character of tubercle as proved. That the histological changes own a physiological prototype is surely no sufficient reason for denying to the tubercle bacillus a specific activity in the genesis of tuberculosis, since on his own showing that organism can, and does, inaugurate the changes which eventually lead to the production of tubercles. In place of the definite conception of a specific infection Dr. Creighton offers only a vague and indefinite speculation as to a disorder of nutrition, and he fails to make clear what actual part the bacilli play in the production of the "spontaneous" disease.

Intestinal Auto-intoxication. By A. Combe, M.D., Professor of Clinical Pediatry at the University of Lausanne (Switzerland), &c. Together with an Appendix on the Lactic Ferments, with particular reference to their Application in Intestinal Therapeutics. By Albert Fournier, formerly Demonstrator at the Sorbonne, Paris. Only authorised English adaptation by William Gaynor States, M.D., Clinical Assistant, Rectal and Intestinal Disease, New York Polyclinic, &c. London: Rebman, Limited. 1908. Pp. 461. Price 16*s.* 6*d.* net.

Considerable attention has been paid in recent years to the subject of the bacteriology of the alimentary canal and of the affections due to the chemical changes which result from microbial action. The book before us sets forth Professor Combe's personal experiences in this field and at the same time refers to a great number of researches by other observers. He starts by defining the term auto-intoxication, and excludes from it toxæmias in which the poisons are formed outside the body and even those formed within the body under the influence of microbes introduced incidentally from without. Intestinal intoxications are, however, included as being due to perverted action of bacteria normally present, and apparently in the author's view symbiotic, in so far as they normally take part in the process of digestion. He limits his study in the present volume to intoxications arising from faulty proteid metabolism. Microbial action in the intestine is found to resemble pancreatic digestion or the action of strong alkalies on proteins. Absorption of poisonous bodies from the gut is facilitated by inflammation of its mucous membrane. Defence against absorbed poisons is carried on partly by the cells of this layer of the intestine, partly by the liver, and partly by certain glands, such as the thyroid, pituitary, and suprarenal bodies. When abnormal putrefaction has occurred in the gut it may be lessened by diminishing the amount of proteins taken, by introducing antagonistic bacteria, by intestinal antiseptic drugs, and by purgatives and lavage of the gut.

The book contains much that is worthy of study by those who are interested in a branch of medical study that is still in a very rudimentary stage. The translation leaves a good deal to be desired. Some sentences are scarcely intelligible, and the punctuation is extraordinary. "Dose" and "dosage" are not used in English for "estimation" of quantities of substances not employed as medicines. We are accustomed to the habit of medical writers of writing compound words (e.g., heart-disease) without hyphens, but to print terms such as "muco entero colitis," "meningeo spinal," "lacto bacilline" thus as separate words is carrying the licence of ignorance rather far. The translator seems uncertain even as to the spelling of certain words; thus we find "cariokinesis," "kariolysis," and "karyolysis." Mis-spellings which we are prepared to regard as misprints are also unduly common—"salycilate," "practiced," and so forth; and we know of no authority for the use of "ileus" for the ileum or lower part of the small intestine.

School Hygiene. By Robert A. Lyster, M.D., Ch.B., D.P.H., B.Sc. Birm., B.Sc. Lond., County Medical Officer of Health for Hampshire, and Chief Medical Officer to the Education Committee of the Hampshire County Council, &c. Second edition. London: W. B. Clive, University Tutorial Press, Limited. 1908. Pp. 388. Price 3*s.* 6*d.*

The publication of a second edition of Dr. Lyster's book on School Hygiene has afforded him an opportunity of adding a chapter on the organisation of medical inspection in schools. In this chapter he gives some useful suggestions in regard to the work of the medical officers for schools, and also as to the methods of recording and analysing the results obtained by the examination of children. He defines as the essential object of routine medical examination to discover the children who are abnormal, and to point out to the parents the necessity for seeking medical treatment. He rightly deprecates the giving of diagnoses to the parents as likely to lead to friction with those in actual medical charge of the child. In our review of the first edition we commended this text-book as a useful one for those concerned with the education of the young, and it is only necessary to state that in so far as this edition is concerned any alterations made are in the nature of improvements.

Worthing Hospital. — Corresponding with the growth of the town of Worthing have been the increased demands upon the Worthing Hospital. During the year 1898 there were 1818 out-patients and 227 minor accidents; during 1908 the figures respectively were 2732 and 468. The honorary medical staff in the past has numbered four, but with a view of lightening the duties, the governors, in considering the question of the vacancy caused by the death of Mr. A. H. Collet, decided on May 14th to increase the medical staff from four to seven, one of the new members of the staff to be the anæsthetist to the hospital. The rules of the hospital were so altered as to admit of the increase in the staff, and a new rule was also passed requiring that every medical officer shall retire on attaining the age of 65.

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SPHAGNOL PREPARATIONS.

(PEAT PRODUCTS (SPHAGNOL), LIMITED, 18 AND 19, QUEENHITHE, UPPER THAMES STREET, LONDON, E.C.)

ATTENTION may be directed to the claims of sphagnol preparations in regard to their use in the treatment of eczema and other skin troubles, since there appears to be little doubt that sphagnol is effective owing to the fact that its active principles consist, amongst other things, of the antiseptic substance creasote combined with sulphur. Sphagnol derives its name from the fact that it is a distillation of peat, and the oil appears to have a value similar to ichthyol in skin diseases, such as acne, herpes, rosacea, and eczema. Sphagnol has the advantage of being non-corrosive and non-irritating. According to some printed statements upon the subject sphagnol in the form of soap and ointment appears to act very effectually compared with other applications used in skin diseases. The soap, we find, is very pleasant to use, and is evidently prepared from desirable materials. It lathers well and imparts a feeling of softness to the skin. Besides a medical soap containing 50 per cent. of sphagnol there are prepared also a toilet and nursery soap containing 5 per cent. of sphagnol, a shaving soap with the same amount, and an ointment containing 10 per cent. of this interesting peat product. Lastly, it is reported that suppositories containing 10 per cent. of sphagnol have been employed with success in the treatment of hæmorrhoids.

P. G. B. BRANDY.

(WILSON AND VALDESPINO, LIMITED, 5, NEW LONDON-STREET, LONDON, E.C.)

We can take no objection to the statement that this is a pure grape brandy 14 years old. Its mellowness on the palate bears evidence of its maturity, while the results of analysis reveal the presence and amount of secondary constituents commonly found in a matured pot-still grape spirit. It has quite a distinguished flavour and of the kind that is appreciated by connoisseurs of genuine old brandy. The secondary constituents amounted to the following in parts per 100,000 parts of absolute alcohol present: aldehydes, 40·00; furfural, 1·50; ethers, as ethyl acetate, 185·00; and higher alcohols, 140·00.

SANATOGEN.

(THE SANATOGEN CO., 12, CHENIES STREET, LONDON, W.C.)

This interesting compound of milk protein and phosphorus in organic combination has recently been improved in regard to its flavour in compliance with the peevish propensities of children and the sick. Certainly the flavour of sanatogen as it is now prepared leaves little to be desired and thus successfully meets an objection which has to be reckoned with. There is abundant evidence of the value of sanatogen as a restorative and food, and more particularly in cases of general debility.

LACTITIA.

(THOMAS CHRISTY AND CO., 4, 10, AND 12, OLD SWAN LANE, UPPER THAMES STREET, LONDON, E.C.)

We understand that this infant food preparation made from buttermilk is identical with a similar preparation in Holland called Nutricia. Its chief merit appears to be that it is made from buttermilk, which, though not showing a composition replete in all classes of food, and especially of fat, is well known to be very digestible. In Nutricia the deficiency of fat is made up by the addition of a special preparation of wheat flour. The whole is of a pasty consistence containing, according to our analysis, 66·46 per cent. of water. The protein amounted to 10·48 per cent., the fat to 2·44 per cent., the milk sugar to 10·00 per cent., the starch to 9·34 per cent., and the mineral matter to 1·28 per cent. It is debateable whether the fat in milk finds an efficient substitute in a carbohydrate, but evidence is given of the success of this food for infant requirements. Possibly the use of buttermilk gives it special digestive quality, and the modified carbohydrate may serve in the same way as barley water in preventing formation of indigestible lumps during gastric digestion.

LACTEOL TABLETS.

(AGENTS: ROBERTS AND CO., 76, NEW BOND STREET, LONDON, W.)

The activity of these tablets as regards their lactic acid producing power was proved by their effect upon fresh milk. The acidity of the milk was doubled in two hours and quadrupled in 24 hours. They therefore may be trusted for the antiseptic treatment of the intestinal tract as in auto-intoxication and in catarrhal conditions.

SOYA FLOUR.

(THE HULL OIL MANUFACTURING COMPANY, LIMITED, STONE FERRY, HULL.)

We have examined a sample of edible soya flour from the above firm and the following are the results of our analysis: moisture, 8·90 per cent.; protein, 55·50 per cent.; starch carbohydrate, 29·00 per cent.; and mineral matter, 6·60 per cent. No less than 38 per cent. of the preparation proved to be soluble in water and a large proportion of the soluble substances consisted of protein. There can be little doubt, therefore, of its nutritive and digestible character, while the flour should be valuable for those patients for whom an excess of carbohydrate is undesirable.

INVALID PORT (MARTINEZ).

(VICTORIA WINE CO., 12-20, OSBORN-STREET, LONDON, E.)

This is supplied by well-known shippers in the Alto Douro and may be described as a robust invigorating port suitable for invalid purposes where, under medical advice, the use of such wine is sanctioned. According to our analysis the wine contains 21·19 per cent. of alcohol by volume; extractive matters, 9·63 per cent.; mineral matter, 0·13 per cent.; and sugar, 9·00 per cent. The volatile acidity was a negligible quantity, amounting to merely 0·06 per cent. The port may be described, therefore, as non-acid. The flavour is "round" and fruity.

GLUCAPHEN.

(FRANK A. ROGERS, 327, OXFORD STREET, LONDON, W.)

Glucaphen is described as a compound containing the proteid ingredients of milk and wheat combined with suitable small doses of glycerophosphates. The results of our analysis confirmed this description, the following figures being obtained: moisture, 10·30 per cent.; protein, 77·61 per cent.; fat, 6·39 per cent.; and mineral matter, 5·70 per cent. The mineral matter consisted practically entirely of phosphates, partly of mineral origin, but which are largely due to the glycerophosphates present. Not quite 50 per cent. of glucaphen proved to be soluble in cold water, so that the statement in regard to its digestibility may be accepted. The food has already received practical testimony as to its nourishing value, and more particularly in the case of patients debilitated by disease or those possessing feeble digestive power.

IMPERIAL DOUBLE STOUT.

(THE NEW CROSS BREWERY, POMEROY-STREET, LONDON, S.E.)

This proved to be a well-brewed malt liquor containing a notable amount of malt extractives. Analysis showed these extractives to amount to 6·45 per cent., while the mineral matter, chiefly phosphates, amounted to 0·35 per cent. As far as we can find, there is no point about this stout calling for further special remark.

THE LANCET.

LONDON: SATURDAY, MAY 22, 1909.

The Oration before the Medical Society of London.

THE annual oration of the Medical Society of London, delivered by a physician or surgeon of recognised eminence in the profession, usually affords material for comment or criticism. Dr. H. D. ROLLESTON, the orator of this year, whose wide experience and comprehensive knowledge of medical literature render him peculiarly fitted for the honour, chose two separate though cognate subjects for discussion—viz., the classification and nomenclature of diseases, and appended an interesting but too brief reference to diseases due to treatment. With so wide a range of controversial matter to deal with Dr. ROLLESTON is critical and analytical rather than constructive in his remarks, and being of logical mind indicates the limitations and defects of our present systems of classification and nomenclature, while he refrains from propounding new ones, though he occasionally forecasts the probable directions in which progress will be made.

In sciences such as botany and zoology, in which the present state of knowledge is sufficiently advanced to permit of the application of a system, classification and nomenclature go hand in hand, but even here changes not infrequently have to be made as the result of research, as witness the frequent changes of name of some of the causal agents of diseases such as the ankylostoma duodenale and the treponema pallidum. Dr. ROLLESTON gives an interesting history of some of the more important systems of classification of diseases since that of FELIX PLATER in 1680, and refers in feeling terms to their fruitless character and their forgotten graves in the dust of libraries. He mentions especially the systems of CULLEN and JOHN MASON GOOD, both of which were for a time employed by Dr. WILLIAM FARR at the General Register Office but found to be unworkable. Little interest has of late been taken in nosological problems in this country, except in regard to the official nomenclature of diseases which follows no special system and is convenient rather than scientific. One of the most recent attempts at classification is that of LANCEREAUX and PAULESCO in France in 1907, which, after modification by a commission of the *Académie de Médecine*, was favourably reported on. For the most part these systems fall into two groups: first, symptomatic and regional; and secondly, etiological. There are obvious defects and difficulties about both of these, since the former would group together conditions upon superficial resemblances, while the latter would sometimes be inconvenient from a descriptive point of view—e.g., to quote an illustration given by Dr. ROLLESTON, peritonitis is more conveniently classified as an abdominal disease than as a local manifestation of infection with various organisms; moreover, classification in cases of mixed infection would be difficult on a purely etiological basis. He is therefore of opinion that a compromise of the etiological and regional systems is, for the present, *faute de mieux*, to be preferred to a rigid adherence to either. An interesting distinction is made between a disease and a symptom-complex or group of symptoms, the former owning a definite and special cause, the latter being a group common to several different causes. Dr. ROLLESTON points out that as our knowledge advances conditions formerly regarded as individual diseases are proved to be only symptom-groups, and, on the other hand, that some conditions now regarded as individual diseases are in reality group diseases, a group disease being defined as "a characteristic collection of symptoms which may be due to any one of a group of allied organisms." Of such group diseases, enteric fever and influenza are instanced as examples.

On the general text of classification Dr. ROLLESTON makes some interesting observations on the future of the physician and on the relations of physicians and surgeons. The former broad classification of diseases into medical and surgical has practically become obsolete since surgery and bacteriology have so extensively and so successfully invaded the domain of medicine both in regard to diagnosis and treatment. In the future the outlook for the pure physician, as Dr. ROLLESTON at once humorously and pathetically expresses it, "between the surgeon and the deep sea of bacteriology," is a parlous one. He thinks that the only remedy is to accept the inevitable trend towards specialism, and so to rearrange the existing spheres of influence that one man treats at least one group of diseases from start to finish, as is already the case in regard to gynæcology and laryngology. He therefore suggests that to this end "the general physician and general surgeon should be merged and should reappear as medical officers to departments or wards for special study of the body." Such medical officers should be trained to perform the operations which may be required in connexion with the region of the body of which they make a special study. The difficulties which would be encountered in establishing such a radical change in the professional scheme of this country would no doubt be considerable, and Dr. ROLLESTON discusses some of them. The first objection, that physicians being unskilled in operative technique would only be slowly replaced by their specially trained successors, could be met by the appointment of special operative assistants during the period of transition. The arrangement and allotment of the various regions and their diseases to specialists would also at first possibly lead to difficulties, and Dr. ROLLESTON briefly outlines a general grouping. But his suggestions that there might well be a department for fevers and for conditions of doubtful diagnosis, and that the out-patient departments would probably have to be less specialised so as to ensure a general education both for the medical officer and for students, indicate one of the greatest difficulties in connexion with such a system—viz., the method of selection of the cases to be sent to the special departments. Another obstacle to such a rearrangement would be the reluctance of the surgeons, who would not relish giving up some of the more lucrative part of their work. Yet another difficulty is the educational aspect of the change, for while no doubt the student would receive excellent teaching in the special departments from those in charge of them, yet it is necessary that he should be instructed in the general principles of the diagnosis and treatment of disease, since training by specialists only is likely to lead to too narrow a view, and to hide the fact that disease is an abnormal condition of the patient and not an entity. Dr. ROLLESTON admits that his suggestions may seem visionary, but points out that the principle is already in practice in the case of gynæcology and obstetrics. It is possible that eventually some such re-arrangement will come about, indeed it, or something very like it, is already an established condition in some countries, but with our innate conservatism it is probable that in these islands the change will be a gradual one, unless the principle of operation by physicians becomes accepted, when the existing specialties would soon become self-contained. The system has much to commend it, for it must be confessed that it would be more rational that, when called in to make a diagnosis, the physician should be so trained as to be able to carry out the treatment which he suggests. The patient applies to the medical practitioner for treatment, and it is small wonder that he sometimes finds it difficult to appreciate a scheme which requires more than one person to afford him the relief he needs.

If classification is in an unsatisfactory condition nomenclature is in a worse, and here Dr. ROLLESTON is critical but without making much suggestion for improvement. He is one of the few authorities who have a kind word to say for the application to a disease of the name of its discoverer, even for compound names, such as the Stokes-Adams disease. We do not share his views, but we allow that apart from doing honour to and keeping known the names of masters in medicine this system of nomenclature is non-committal as to the nature of the disease. On the other hand, controversy as to priority may lead to multiple synonyms, as in the case of exophthalmic goitre, which has, as Dr. ROLLESTON mentions, no less than seven observers' names attached to it. He discusses the different forms of nomenclature and regards the pathological method as the most satisfactory, but this is not applicable in diseases of which the morbid changes are not yet known. In other instances the popular or folk names of diseases are so firmly established that it would be difficult to replace them. A standard nomenclature is highly desirable, not only for statistical purposes so as to enable figures from different sources to be compared, but also to get rid of the multiplicity of synonyms, which are confusing and unnecessary. The official nomenclature of the Royal College of Physicians of London was first undertaken in 1857 and published in 1869. It is now subject to decennial revision, the last edition having been published in 1906. It is the standard by which the medical profession in this country is more or less guided, but perhaps as pathological knowledge advances an international system of nomenclature comparable to that established in anatomy may be achieved.

The concluding section of Dr. ROLLESTON'S oration is highly interesting, and deals with the subject of diseases and morbid conditions due to treatment. Owing to limitations of time he was only able to refer briefly to some of the more obvious of these, but the subject is one which might usefully be considered in detail, and there is no one from whom we would rather hear the full story than Dr. ROLLESTON.

The Rôle of Anæmia in Anæsthesia.

MORBID conditions of the blood have been recognised of late years as constituting important factors in the prognosis of surgical operations. Both from the point of view of the surgeon and from that of the anæsthetist graver risks are run by patients whose blood has suffered depreciation through disease or hæmorrhage than is the case with patients whose blood count is normal and whose hæmoglobin standard is satisfactory. In a paper contributed to the *Intercolonial Medical Journal of Australasia* of Jan. 20th Dr. R. T. SUTHERLAND reopens this subject, dealing with anæmia and the incidence of fatality under chloroform among the anæmic. He has analysed 900 recorded cases of chloroform administration at the Women's Hospital, Melbourne. The blood pressure was measured in these cases and of course was found to be lowered, as always obtains during the use of chloroform. In young women the blood pressure averaged 110 to 130 mm. Hg, and those with a high pressure, we are told, did not do well under chloroform. Among the women aged 45 years and above the average blood pressure was 100, and no untoward symptoms occurred under chloroform. The blood was examined also, and it was found that the incidence of danger under chloroform fell most upon patients who were anæmic and in proportion to the degree of anæmia. Other conditions—age, sepsis, blood pressure—appeared to be dominated by the blood state. Anæmia from whatever cause acted prejudicially when chloroform was employed.

These conclusions are noteworthy. Dr. SUTHERLAND regards anæmia as causing danger under chloroform owing to (1) the fact that in anæmia, while the total volume of blood is increased, the relative number of corpuscles is decreased; (2) the larger volume of blood allows more chloroform to be absorbed; and (3) the poor quality of the blood leads to malnutrition of the heart and so renders it more liable to chloroform poisoning. Dr. SUTHERLAND has been led to employ ether for anæmic subjects and has met with satisfactory results. The second contention advanced is probably unsound, at all events in its entirety, as the recent work done on the action of chloroform has revealed the fact that the red cells are the active carriers of chloroform as of other anæsthetics, and so it is doubtful whether the blood of anæmic subjects does absorb more chloroform than is the case with normal individuals. The contention that the tissues are ill nourished is no doubt the main factor in producing danger in such persons, and this applies with even greater force to the tissues of the central nervous system than to the fibres of the myocardium. MCWILLIAM and others have proved that in the case of certain of the lower animals acute dilatation of the heart occurs when chloroform is inhaled, and there appears to be little doubt that when the musculature of the heart is poorly nourished this dilatation is accentuated and is liable to pass beyond the degree which is consistent with ultimate contraction. This fact probably explains the tendency to heart failure under chloroform to which Dr. SUTHERLAND draws attention. It is, however, the nervous system which suffers most in anæmic states. Dr. LEONARD HILL'S work has taught us that the central nervous system when depleted of blood or supplied with blood of poor quality is peculiarly liable to be affected by drugs. A dose of chloroform, which is well within the safe limit if supplied to a normally nourished medulla, will destroy the nerve cells the vitality of which is lowered by starvation. It is matter of common clinical experience that anæmic persons, more especially those in whom the bloodlessness is the result of chronic morbid processes, frequently take anæsthetics badly and are liable both to circulatory depression of more or less severity and to storms of irregular nervous action often making for respiratory failure or inadequacy. The rôle which poverty of hæmoglobin plays is probably that it leads to chronic oxygen starvation—a condition consistent only with depressed tissue vitality. That chloroform reacts more dangerously than ether is explicable when it is remembered that the former is a powerful protoplasmic poison; the latter seldom destroys cells unless used in enormous quantities—quantities which are outside the range of the usages of the anæsthetist. And this consideration probably gives the key to the problem presented when chloroform has to be used for patients suffering from advanced anæmia. It is not the chloroform which kills so much as the use of large quantities for prolonged periods and a concomitant deprivation of oxygen. The actual quantity of chloroform required for anæmic patients is far less than in the case of healthy subjects, and when oxygen is employed *pari passu* with the anæsthetic one of the chief dangers is diminished almost to the vanishing point.

The effect of oxygen in protecting tissues from chloroform toxæmia has been demonstrated experimentally by Professor C. S. SHERRINGTON and Miss SOWTON and clinical experience supplies ample corroborative evidence. Methods which do not enable the anæsthetist to estimate the results of his dosage except by the advent of dangerous symptoms must be always perilous for patients who are anæmic. This is so because restriction of the quantity given is the only chance of safeguarding them from initial dangers, and also because their tissues once subjected to overdosage are so readily destroyed that resuscitative measures are seldom of any avail. Dr. SUTHERLAND has done a useful service in commenting upon this aspect of anæmia, since, although many surgical writers have insisted upon the dangers of general anæsthetics for persons in whom the blood count has revealed a marked depreciation of the corpuscular constituents, they have failed to realise that the danger lies, not so much in the anæsthetic, as in the manner in which it is employed. The inquiry is really far-reaching and involves not only the question of how far chloroform when introduced in massive doses destroys the red corpuscles—that it does so is certain—but also how far it is capable of destroying the active glandular tissue of organs such as the liver and the kidneys. In acidosis anæmia is a fairly constant factor, and malnutrition of tissue probably plays an important part in bringing about the necrobiosis of epithelium which is the prelude to abeyance of glandular function. It is sometimes said that anæmic persons "take anæsthetics well," and the statement may be accepted by the superficial observer, since the actual induction of anæsthesia is often simple in the case of the asthenic. However, there can be no doubt, when we recall the facts which experiment has demonstrated, that the dangers in these cases are of a nature which is not revealed in the gross phenomena incident to induction; they are insidious, far-reaching in their effects even when giving little warning of their presence until catastrophe occurs. Anæmia must be accepted as proof of a general tissue starvation and therefore of a greatly lessened power of resistance to drugs such as chloroform. To be forewarned is in such cases to be forearmed.

The Factors of Sex.

ALL medical men are perforce students of the phenomena of heredity, and the doctrines of Mendelism have consequently attracted the close attention of many of our readers. Medical men may not be prepared to endorse the claim that the application of Mendel's method of research has so clarified the study of heredity that this study has now become for the first time an organised branch of physiological science, but all must allow that abundant and suggestive results have accrued from the observation of a very wide range of zoological and botanical types. Among the latest developments of work along these lines is an attempt to show that the etiology as well as the influence of sex can be reconciled with Mendelian principles; and though it is a far cry from this position to that of ability, for example, to prophesy whether the infant on whom a crown or an estate should devolve will be male or female, any evidence that sex is determined by gametic differentiation will be welcomed by earnest students of heredity as a matter of enormous promise. Work in this direction will be upon practical and definite lines.[1] At present the essential factors which determine the sex of the fœtus are not known, but this want of accurate information has not in the least deterred many of those who have devoted their attention to the subject from supplying from the imagination that which was lacking in their knowledge. There have been put forward many theories to account for the sex of a child; some of these are over 2000 years old and some are of our own time, and the modern theories have been, some of them, as fanciful as the ancient. The conditions prevailing in the invertebrate animals are very different from those obtaining in the vertebrata, so that it is a little dangerous to maintain that the determining cause of sex in the lower animals is identical with that in the higher animals and in man. It is by no means proved that, in the respect of the determination of sex, mammals and the lower vertebrates are identical, or even that man resembles other mammals on this point, though it is extremely probable. These uncertainties have tinctured all deductions.

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[1] See the review on p. 1461 of Mendel's Principles of Heredity, by Professor W. Bateson.

Inasmuch as a woman has two ovaries, it was suggested very early in the study of the subject that one ovary supplied male ova and the other female; a similar differentiation of function was ascribed to the testes, and the union of like with like was supposed to give rise to a fœtus of that sex, while if unlike met no fertilisation resulted. Such theories as these have for the most part been discarded, but in a modified form Mr. E. RUMLEY DAWSON[2] has recently revived the idea, maintaining that the right ovary of a woman contains only male ova and the left ovary has only female ova, while he considers that the father has no influence on the sex of the ovum. This differentiation between the functions of the two ovaries is usually considered to be answered by the case of the birds, in which the right ovary atrophies and only the left survives to supply all the ova of both sexes, but it is hardly safe to take for granted that the arrangements for the sexing of ova in the bird must be the same as those in the human being. Mr. DAWSON brought forward many arguments and facts in support of his opinion, but the verdict must be that his theory has no proper scientific foundation. Some ten years ago the theory put forward by Professor SCHENK received much attention; he held that if the urine of a woman contained any sugar whatever, even an amount so small as to be recognisable only by the phenyl-hydrazin test, there was a high probability that she would give birth to females rather than to males. In order that she might have male children Professor SCHENK advised that her diet should be so modified as to cause the total disappearance of the sugar. It may be taken for granted that the theory has broken down, for it was so easily to be tested that it has certainly been put to the trial, and if there had been any successes which could not be explained by coincidence we should certainly have heard much of them. The fault of most of the theories advanced hitherto is that there has been but little attempt to find facts, except to support some special theory. We know so little of the subject that the chief desideratum now is the collection of facts. Facts are needed on which to base a sound theory, and statistics, if rightly handled, should at least provide useful suggestions, but very few statistics are available.

It is known that in European races more boys than girls are born, and the average is almost constant—106 boys to 100 girls—and if regard be paid to stillbirths the excess of boys is still greater, for many more stillbirths occur with male children than with female. Nothing certain is known as to the reason of this disproportion, though some suggestions have been made. Another interesting fact is that amongst illegitimate children the excess of males is less marked than it is amongst legitimate children, the proportion being only about 103 boys to 100 girls. Little, however, has been done in the direction of obtaining statistics as to the variations in these proportions and their apparent causes, and therefore a paper recently read before the Royal Society by Mr. WALTER HEAPE is of special value. The title of the paper was "The Proportion of the Sexes Produced by Whites and Coloured Peoples in Cuba." It was based on the records of the Sanitary Department of Cuba, in which details are given of the births and stillbirths both of the white and coloured people of that island; and these records of births also distinguish between those which are legitimate and those which are illegitimate. The numbers are large and therefore of special value; they deal with the years 1904, 1905, and 1906, and during these three years there were in all 171,297 births and 6407 stillbirths. These totals are from monthly records for each of the three years and for each of the six provinces into which Cuba is divided. In each case the proportion of males for every 100 females has been calculated. The first noteworthy point that may be extracted from these statistics is that the white inhabitants produce a larger proportion of males than do the coloured people. For the whites the proportion varied from 106·8 to 110·5, with an average of 108·4. For the coloured population the proportion varied only from 101 to 101·2, with an average of 101·12, and this racial difference was shown both in the live births and in the stillbirths This marked racial difference is probably due to heredity, for the white inhabitants of Cuba mainly came from Spain. The sex ratio in legitimate and illegitimate births is given in figures relating to both white and coloured populations. In each of them the illegitimate births show an increase in the proportion of female children. In whites the total legitimate births are 107·76 males per 100 females, while the illegitimate are only 104·4 males per 100 females. In the coloured race the legitimate births are 106·76 and the illegitimate are only 96 76 males per 100 females. Mr. HEAPE points out that this difference cannot be a result of heredity, but must follow from some physiological conditions which modify the metabolic activity of the woman; he suggests that this exceptionally active metabolism in the mother affects favourably the development and ripening of female ova.

Another point of interest brought out by these statistics is that in Cuba there are each year two sharply defined breeding seasons, each of which corresponds to a change of temperature; one in the autumn occurs shortly after a sudden change from great heat to cooler weather, and the other in the early months of the year at the time when the cool weather of winter is giving place to spring. This effect of change of climate is seen also in the relative proportion of the sexes of the children produced, for at the breeding seasons when the increased metabolic activity of the mother is present there is a definite increase in the proportion of female births, and this is seen in both races. The effect of town as compared with country life on the sex ratio is also worthy of attention. The proportion of females born in the towns is considerably higher than in the country. No law of heredity yet known to us can account for this variation; it seems obviously due to extraneous forces, and of these perhaps food and climate are the chief. The statistics in short furnish evidence that in the human subject extraneous forces can exert a very definite influence on the proportion of the sexes. The matter is worthy of the fullest study. It would be well if the statistics of the British Isles could be more informative on some of these minor the human being, and that was in a case in which the cannula method had been previously employed unsuccessfully. The transfusion was very satisfactory; in fact, too much blood was given by the donor. The use of the lateral branch of the vein already mentioned is to enable the surgeon to see by taking off the clamp if any blood is flowing. The chief difficulty in all these methods of direct transfusion is found in determining how much blood is being transferred. Many cases have occurred in which the surgeon was under the impression that much blood had passed, but the fact that the blood pressures both of the donor and of the recipient were unaltered made it certain that none or very little blood had been transferred. An increase in the hæmoglobin of the recipient certainly shows a successful transfusion, but there is no close relation between the increase in colouring matter and the actual amount of blood received. The alterations in the blood pressures have also been used as a gauge, but there are many other factors which vitiate any accurate estimate being based on them. Weighing the donor and the recipient would be satisfactory, but the practical difficulties are almost insuperable. Even if the rate of flow from the artery be gauged previously to the anastomosis this rate could not be used with much value to estimate the quantity transfused. The dangers to the recipient are four: first, the possibility of a hæmolytic action of one blood on the other; secondly, the entrance of air or emboli into the vein; thirdly, the employment of a donor with a communicable blood disease; and fourthly, over-distension of an enfeebled right heart. The operation is without real danger to the donor, but it is well to take care not to abstract too much blood. During the operation continuous rectal infusion should be employed or a saline infusion may be administered at the end of the operation. We consider that the comparative simplicity of Dr. Hartwell's method is a strong argument in its favour, and in suitable cases where direct blood transfusion is indicated it is deserving of a trial. It has the great merit that no real suturing of the vessels is needed, and yet the blood in passing from the donor to the recipient does not come into contact with any structure likely to give rise to rapid clotting.

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[2] See the review on p. 1462 of "The Causation of Sex," by Mr. Rumley Dawson.

A CRUSADE AGAINST FLIES.

NOW that it has been conclusively established that flies convey disease, let the nation wage war against these repulsive insects and take steps as far as possible to exclude them from among us. The campaign should be begun at once for the fly season is near at hand, and there can be little doubt that if everybody did his best to exterminate the fly a very distinct advantage to the public health would be gained and a most interesting example afforded of the lessons which progressive medicine teaches. It is not always possible to trace the origin of illness, but it is easy enough to give valid reasons why the fly can be the introductory agent. Purely medical aspects apart, the fly is not particularly scrupulous as to its environment: it alights at one time on most offensive material and at another it is on the food in the kitchen and at the table. One of the earliest experiments we remember to have seen showing the connexion of flies and disease was that in which a common blue-bottle was allowed to walk across a piece of freshly sliced potato. The potato subsequently developed colonies of micro-organisms all along the track taken by the fly, while elsewhere no development took place. The important question remains how best to get rid of the fly. Fly-papers and sticky strings are unsightly, and the struggles of a fly to release itself from a sticky substance is not an entertaining spectacle. In our own experience the best exterminating agent is a weak solution of weak formaldehyde in water (say two teaspoonfuls to the pint) and this experience has been confirmed by others. It would appear that flies are attracted by a weak solution of formaldehyde, which they drink. Some die in the water, others get as far only as the immediate vicinity of the plate of water, but all ultimately succumb, and where they occur in large numbers, hundreds may be swept up from the floor. It is consoling to know that by this method the flies have died under a dose of a fluid which is fatal to disease organisms, a fluid also which is inoffensive and for practical purposes non-poisonous. The method at once provides a means of diminishing the scourge, and of securing to some extent what is most desirable, the disinfection of the slain.

THE LYNN THOMAS AND SKYRME FUND.

IN another column we publish an abstract of the report of Mr. William Sheen, the honorary secretary of the Lynn Thomas and Skyrme Fund, upon the raising of the Fund, together with an account of the ceremonials to be observed at its presentation on June 4th at Cardiff. The eminent French surgeon, M. Lucas-Championnière, President of the International Society of Surgery, is to make the presentation and will also give an address upon the Modern Treatment of Fractures, which in the circumstances will have great topical interest. The presence of a foreigner and of one who is such a leader in his profession as M. Lucas-Championnière is one more proof of the truth of the saying that science knows no politics and is additional evidence of the friendship existing between ourselves and the French nation. We join our congratulations with those of our professional brethren at Cardiff to Mr. Lynn Thomas and Mr. Skyrme on the successful result of the appeal, not only in that its result has been of pecuniary service to them, but also because it shows that they have won the sympathy of their professional brothers.

HYDATID FREMITUS TRANSMITTED THROUGH THE THORAX AND FELT BY THE PATIENT.

AT a meeting of the Société Médicale des Hôpitaux of Paris on April 2nd M. A. Chauffard reported a case in which hydatid fremitus was observed under new conditions. The patient was a butcher, aged 33 years, who in his occupation was frequently brought into contact with hydatid disease. His thorax was asymmetrical; the lower part of the chest on the right side projected and the intercostal spaces were enlarged. The right chest measured 48 centimetres in circumference and the left 41. On percussion hepatic dulness extended as high as the nipple and downwards four fingers' breadth below the ribs. Radioscopy showed a dome projecting from the antero-superior part of the liver and extending as high as the nipple. The blood contained 3 per cent. of polynuclear eosinophiles. On placing the fingers of the left hand across the back of the right chest below the angle of the scapula, and lightly percussing in front over the fifth or sixth rib with the right index finger, a series of small undulatory vibrations (hydatid fremitus) was clearly perceived. This fremitus was also perceived by the patient, who compared it to the undulation produced by throwing a stone into water. Hydatid fremitus could not be obtained in the ordinary manner by percussion on one of the fingers placed on the anterior part of the thoracic projection. Thus the case presented two peculiarities: the hydatid fremitus was obtained only across the thorax, and it was clearly perceived by the patient himself. M. Chauffard suggests that the vibrations were both transmitted and perceived by the costal arches, and that the very delicate sensibility of bone to vibrations, for example to those of the tuning fork, which has been shown to exist by the researches of M. Egger, should be taken into account. This form of hydatid fremitus can be obtained only in similar cases to that now described—large cysts rising above the convexity of the liver. Fremitus in connexion with hydatid cysts is a useful sign when present, but is only found in a minority of the cases, since the conditions for its production are not always fulfilled. It would appear that the cyst must be of a certain size and that the tension of its walls must not be too great. Thus it is sometimes found that after partial aspiration a fremitus may be elicited over a cyst from which it was not previously obtainable. It was at one time supposed to be due to the impact of daughter cysts against one another, but it can certainly be obtained over cysts from which they are absent. A somewhat similar thrill can sometimes be obtained in other cystic swellings. In the above case the transmission of the fremitus across the chest, while it could not be obtained by percussion on the anterior surface, is of special interest. A similar sign has been described in effusions within the pleural cavity of children by Mr. T. H. Kellock, so that it cannot be regarded as pathognomonic of hydatid disease. The appreciation by the patient himself of the fremitus is also an unusual occurrence, and the suggestion put forward by M. Chauffard to explain it is a very plausible one. It would be worth while in any case of prominence of the chest such as this one to try for the sign in the manner described.

THE LIVERPOOL POLICE, INEBRIETY, AND THE ALIENS ACT.

THE report of the chief constable of Liverpool for the year 1908, recently laid before the watch committee of that city, contains observations upon the working of the Inebriates Act from the point of view of that executive authority which brings the inebriate before the magistrate and which has ample opportunity for observing the practical aspects of the sentence which follows. The statistics of Liverpool show that up to the time of the inquiry of the Departmental Committee of last year 113 persons had been committed there under the Inebriates Act of 1898. Of these, 17 were males and 96 females. After various periods of detention, 60 of them, including 8 males and 52 females, had been released, of whom 38 (4 males and 34 females) had since relapsed. Definitely proved failure to bring about any lasting result in so many of the cases treated at considerable expense is not a very encouraging result. The chief constable of Liverpool ascribes the lack of success to the difficulty of applying the Act in time. In his view, the persons upon whom reforming measures are tried are too often past cure. They are enormously benefited during the time that they are under restraint, but they are too far gone before committal to be able to resist temptation when restored to liberty, and he suggests that it should be possible to bring under the provisions of the Act those who are at an earlier stage in the downward road. He also criticises the practice of treating first convictions for drunkenness lightly, instead of trying to make the convicted person realise that he has committed an offence against the law of which he ought to be thoroughly ashamed. This is a matter for the consideration of magistrates who, we feel sure, are actuated by a desire to exercise clemency towards men or women, possibly young and certainly foolish, but not in the ordinary sense criminals, whereas, on the other hand, a severer attitude on the part of the bench may have a salutary effect in checking the formation of habits of excess. Another point of interest in the report before us relates to the passing of foreign emigrants and immigrants through Liverpool, of whom we are told that "every possible device for robbing and cheating them is tried. Since the United States and Canada became strict in their medical examination, especially with trachoma, smuggling rejected emigrants through the immigration bureaux, cheating them under the pretence of being able to cure them or to smuggle them through, has led to several prosecutions, and during this last year the one prosecution here under the Prevention of Corruption Act was obtained for an attempt to bribe a shipping company's doctor." It is consoling to learn that most of the offenders of this class are aliens themselves who can be deported, but we gather from a subsequent remark of the chief constable of Liverpool that he has little faith in such expulsion securing the permanent absence of the expelled criminal from this country. He may not return to Liverpool or to any other locality where he is known to the police, but he finds his occupation too profitable to be abandoned without seeking another field of operation in this hospitable island. We note also that the deporting of 13 undesirable aliens sent home from Liverpool cost the country about £148.

DIRECT APPLICATION OF THE X RAYS IN INTERNAL DISEASE.

IT is now well established that the x rays have a curative effect on superficial epitheliomata. But in deep-seated lesions, to which they cannot be directly applied, their value is considered doubtful, opinions varying, as our correspondence columns have shown. It has occurred to Dr. Carl Beck of New York to try the effect of applying the rays directly to the latter by means of an operation (eventration) and thus to put superficial and deep disease on the same level. In the *New York Medical Journal* of March 27th he has reported seven cases so treated. Though the number is small the results may be described as encouraging. A man, aged 40 years, had a large carcinoma of the pylorus which was slightly moveable. On its surface were several annular nodules attached to neighbouring parts, and there were several enlarged glands. Instead of performing pylorectomy, which he regarded as dangerous, Dr. Beck dissected the adherent area as far as was necessary to allow the diseased part to be pulled into the abdominal wound and sutured to the skin. No reaction followed the operation. Soon afterwards the x rays were applied daily for nine days. Then an erythematous spot began to form on the pylorus, but the skin showed no reaction. The application of the rays was stopped. Five days later the pylorus was of a pink colour. This became more marked, while the growth gradually disappeared. A week later the adhesions were divided and the pylorus was pushed back into the abdomen, which was closed. During the treatment small quantities of milk were given by the mouth and nutrient enemata. In the first week vomiting was frequent but was held in check by subcutaneous injections of morphine. The patient complained repeatedly of cramps in the region of the wound, which continued until three weeks after the operation. After this the rays were applied once a week for 15 months. The patient gained 18 pounds in weight and a growth could no longer be felt. In a second case, a woman, aged 43 years, had an induration on the anterior surface of the stomach and suffered from frequent hæmatemesis, pain, and cachexia. Exploratory laparotomy was performed on Feb. 4th, 1908, and revealed a large ulcer with indurated margins. The affected part of the stomach was sutured to the skin as in the first case. On the third day the x rays were applied. The patient progressed so well that she was discharged from hospital after four weeks. She gained 12 pounds in weight and has remained well ever since. In the third case, a cachectic man, aged 66 years, had a hard mass in the right iliac region of the size of the hand. Laparotomy revealed a nodular mass attached to the posterior part of the iliac fossa which was diagnosed as a fibrous carcinoma. Extirpation seemed belly of the muscle, resulting in cirrhosis, and the more acute infiltrative processes being at the extremities; much of the muscle was also quite normal. Of all the nerves examined those supplying the biceps were least affected, yet that muscle showed the myositic changes in a marked degree. These changes were clearly of an inflammatory nature, suggesting a direct toxic action of the alcohol on the muscle tissue.

SYPHILIS IN ITS RELATION TO DENTITION.

THERE has recently appeared in the columns of *Dental Cosmos* (November and December, 1908; January and Febuary, 1909, by Dr. Cavallaro) an exhaustive paper on the Relation of Syphilis to Dentition. The author has been able to confirm the discovery of Pasini that the spirochæta pallida is to be found in abundance in the dental follicle in proximity to the vessels and their walls. He shows that a curious modification of the lower ends of growing teeth can often be demonstrated in the form of a construction of the dental papilla which clinically corresponds to the atrophy of the tooth cusps so often seen. He states that at this part certain changes can be noted in the pulp tissue, the nuclei are better stained, and the infiltration of the embryonal cellular elements is more intense. He also has found in the dental follicles the following alterations—namely, endovasculitis, perivasculitis, and hæmorrhage. The lesions of syphilis, as far as the teeth are concerned, are usually seen in the permanent series on the incisors and first molars, and this he attributes to the fact that the maximum intensity of the virulence is during the last months of intra-uterine life and the first three months of extra-uterine life. In his opinion the deciduous teeth do not always escape, but the reason why they are not so likely to be affected is due to the fact that these teeth dentify between the seventeenth and eighteenth weeks, when syphilis rarely manifests itself, and, if it does, usually tends to abortion. In addition to the changes already referred to in the follicle, he finds certain histo-chemical alterations in the enamel and dentine. A detailed account of 38 cases is given, and to 22 of these illustrations of the teeth lesions are added. Dr. Cavallaro shows that in many cases not showing the typical Hutchinson's teeth other defects of the teeth are invariably present, and seems to regard these latter defects as pathognomonic of hereditary syphilis. With this we can hardly agree, because the type of lesions which he figures are all to be found in patients not showing a trace of congenital syphilis. An excellent bibliography is added to the paper.

THE annual dinner of the Indian Medical Service will be held at the Gaiety Restaurant, Strand, on Thursday, June 10th, at 7.45 P.M., Sir George Birdwood, K.C.I.E., in the chair, when the service will have the honour of entertaining General Sir O'Moore Creagh, V.C., K.C.B., Commander-in-Chief in India elect, as their guest. Officers intending to be present should communicate without delay with the honorary secretary, Lieutenant-Colonel P. J. Freyer, 27, Harley-street, W.

THE Croonian Lectures of the Royal College of Physicians of London will be delivered at 5 o'clock P.M. at the College on the following Tuesdays and Thursdays, June 15th, 17th, 22nd, and 24th. The lecturer, Dr. Lazarus-Barlow, has taken as his subject Radio-activity and Carcinoma.

AT the meeting of the London Education Committee on May 19th it was reported that the inquiries of the special committee into the cost of medical treatment of school children are being limited to the cost of treating eyes, ears, and skin diseases. Dental conditions are not included in the present reference.

A TELEGRAM from the Governor of Hong-Kong to the Secretary of State for the Colonies states that 6 cases of plague with 4 deaths were reported during the week ending May 15th.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF THE COUNCIL.

AN ordinary meeting of the Council was held on May 13th, Mr. HENRY MORRIS, the President, being in the chair.

Sir Shirley Forster Murphy and Mr. George Dancer Thane were introduced, and after signing the by-laws and making the required declaration were admitted Fellows of the College.

Mr. John Percy Lockhart Mummery was introduced and the PRESIDENT handed him a cheque for the amount of the Jacksonian Prize for the year 1908, together with a document declaratory of the award.

Mr. Arthur Swayne Underwood was introduced and the PRESIDENT handed him a cheque for the John Tomes Prize, together with a document declaratory of the award.

An undergraduate of Liverpool University, Mr. John Robert Douglas Webb, was appointed the second Begley Scholar.

The SECRETARY reported the death, on April 9th, at the age of 82 years, of Mr. Claudius Galen Wheelhouse, LL.D., a past member of the Council. The following vote of condolence was then carried:—

> That the Council hereby express their deep regret at the death of Mr. C. G. Wheelhouse, whom they highly esteemed as an able surgeon, keenly interested in all matters re [illegible] and the advancement of surgical science, a [illegible] and to the College they remember [illegible]
>
> That the Council desire also to [illegible] excellent personal qualities which [illegible] ship of all who knew him and to convey their sincere sympathy to Mrs. Wheelhouse and her daughter in their bereavement.

It was resolved to issue diplomas of Membership to 91 successful candidates and diplomas of the Licence in Dental Surgery to 30 successful candidates.

Mr. C. A. Ballance was elected a member of the Court of Examiners.

A letter was read from Mrs. Macloghlin offering to the College a work in bronze and marble by Alfred Gilbert, M.V.O., entitled "Mors janua vitæ." The offer was accepted with thanks.

The PRESIDENT stated that the vacancy on the Board of Examiners in Dental Surgery, occasioned by the retirement of Mr. Pearce Gould from the Court of Examiners, would be filled up at the next meeting of the Council.

MEETING OF HUNTERIAN TRUSTEES.

Lord WALSINGHAM presided at a meeting of the trustees of the Hunterian Collection which was held at the Royal College of Surgeons on May 12th. A committee appointed by the trustees at their previous meeting to examine into the state of the collection reported that they had duly inspected the collection and had found evidence of progress and improvement. The committee expressed their approval of a new system of box-indexing and descriptive labelling of specimens. Other trustees present were Mr. Henry Morris (President of the College), Sir John Tweedy, Dr. Norman Moore, and Dr. J. Kingston Fowler.

LIVINGSTONE COLLEGE.—Commemoration Day will be celebrated at Livingstone College, Leyton, E., on May 26th. The proceedings will commence at 3.30 P.M. The chair will be occupied by the Very Rev. H. Montagu Butler, D.D., Master of Trinity College, Cambridge. Professor A. Macalister will give an address on the Need of Elementary Medical Training for Missionaries in China, and Dr. M. A. Stein, the Asiatic explorer, will speak on the Importance of Elementary Medical and Surgical Knowledge in Far-off Lands. A special train will be provided from St. Pancras at 3.5 P.M., returning from Leyton (Midland) at 5.50 P.M. First-class tickets can be secured by sending 1s. to the Principal, or they may be obtained from a representative of the College on the platform.

LYNN THOMAS AND SKYRME FUND.

THE APPEAL AND THE RESPONSE

WE have received a report from Mr William Sheen, honorary secretary of the Lynn Thomas and Skyrme Fund, in which he summarises the results of the appeal to the medical profession which first appeared in our issue for March 21st, 1908, over the signatures of a numerous and representative body of leading physicians and surgeons It may be of interest to recall the circumstances of this appeal An action was laid against Mr J Lynn Thomas, C B, surgeon to the Cardiff Infirmary and Mr H E Skyrme of Cardiff by a plaintiff named Southern, who claimed £2000 against the defendants, being dissatisfied at the manner in which they had treated a fracture dislocation of the upper end of his humerus The case was heard at Cardiff assizes in 1905, when the jury disagreed A new trial took place in the King's Bench Division, London, in 1906, when the jury awarded the plaintiff £100 damages and mulcted the defendants in costs with the damages That these, with the costs of the defence, amounted altogether to a very large sum is shown by the fact that though part of the expenses were borne by the Medical Defence Union the defendants had to pay £3197 12*s* 3*d* This enormous fine was the penalty which the defendants had to pay for having treated the patient in a manner approved by a number of eminent surgeons who testified to that effect at the trials of the case A liberal response was made to the appeal, many of the subscriptions coming from colonial practitioners and practitioners resident abroad

The Fund was formally closed on July 31st, 1908 Since that date a few additional subscriptions have been received and the gross amount of the Fund, with interest, is now £1788 11*s* 6*d*. All the details of the subscriptions have been published, lists appearing from time to time in THE LANCET and the *British Medical Journal* The amounts of individual subscriptions have varied from £10 10*s* to 2*s* 6*d* An analysis of the subscriptions appears in the appended statement of accounts 1663 subscriptions were received from individuals, while 29 medical societies and 14 branches or divisions of the British Medical Association sent subscriptions from their general funds To the honorary secretaries of these bodies Mr Sheen wishes us to express his sincere thanks for their valuable support The expenses of collecting the Fund were £176 8*s* 9*d* A great amount of correspondence was involved, necessitating much circularising,

men concerned will be reimbursed to the extent of half of his expenditure The result cannot be regarded as otherwise than satisfactory The medical profession is not a rich one The enormous mass of correspondence which has come to hand shows a feeling of universal sympathy with the two gentlemen concerned and approval of the methods of treatment they employed Many letters of sympathy have been received from those who regret their inability to contribute

THE PRESENTATION

The presentation of the Fund will be made at Cardiff on June 4th next by M J Lucas Championnière, President of

M Lucas Championnière

under the auspices of the

odern Treatment of Fractures To this address, besides the local members of the medical profession, all subscribers to the Fund will be invited In the evening a dinner will be given in the course of which the presentation will be made No more appropriate member of our profession could be chosen to make the presentation than M Lucas Championnière, not only because of his position as President of the International Surgical Society but because he is the pioneer of the present rational treatment of fractures It was the carrying out of the methods of treatment advocated and practised by M Lucas Championnière that helped to involve Mr Lynn Thomas and Mr Skyrme in litigation The sympathy shown by M Lucas Championnière and his approval of the methods employed have been undoubted from the first, and his opinion was expressed in no uncertain terms in an article which he contributed to the *British Medical Journal* on March 28th, 1908 The visit of so distinguished a surgeon to Cardiff is a matter of congratulation, and it is hoped that members of the profession will unite in large numbers to give him a cordial welcome and express in every way possible their appreciation of his visit His reception will be of a civic character, and he will be the guest of the Lord Mayor

THE STATEMENT OF RECEIPTS AND EXPENDITURE

The Honorary Secretary's audited statement of receipts and expenditure is as follows —

Receipts

	£	s	d
To 974 Subscriptions received by Honorary Secretary direct	1365	14	0
" 550 Subscriptions received through Honorary Secretaries of Branches and Divisions of the British Medical Association	165	9	0
" 139 Subscriptions received through Honorary Secretaries of Medical Societies	37	12	0
" 14 Subscriptions from General Funds of Branches or Divisions of the British Medical Association	65	8	0
, 29 Subscriptions from General Funds of Medical Societies	113	12	6
, 3 Subscriptions from Hospital Staffs	11	19	0
Some Indian Sympathisers"	1	1	0
, Interest received from Bank Deposit	26	16	0
	£1788	11	6

Expenditure

	£	s	d
By Printing and Stationery	64	5	9
, Stamps	61	3	10
" Incidentals	4	5	11
, Clerical work	44	2	7
" Expenses of Circulars Western Australian Branch of the British Medical Association	1	9	8
Translation of Protest	1	1	0
	176	8	9
, Balance at Bankers	1612	2	9
	£1788	11	6

I have examined the above account with the Hon Secretary's books, vouchers &c and certify it to be correct

Cardiff May 12th 1909 R H MARCH F C A.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia was held on May 13th, Sir R. DOUGLAS POWELL, Bart, K C V O, the President, being in the chair

Those gentlemen who had been elected as Fellows of the College at the previous Comitia were admitted John Edward Squire, C B, M D Lond, Theodore Stacey Wilson, M D Edin, Charles John Macalister, M D Edin, George Harold Arthur Comyns Berkeley, M B Camb; Robert Oswald Moon, M D Oxon, Clive Riviere, M D Lond, Oliver Key Williamson, M D Camb, Francis Arthur Bainbridge, M D Camb, John Shields Fairbairn, M B Oxon, Otto Fritz Frankau Grunbaum, M D Camb, Joseph Shaw Bolton, M D Lond, Charles Bolton M D Lond; and Llewellyn Caractacus Powell Phillips, M D Camb

A communication was received from Dr E Liveing resigning his office of Registrar and the membership of the Committee of Management

The PRESIDENT regretted that there was no option but to accept the resignation and expressed in laudatory terms the great services that Dr Liveing had rendered to the College

The following motion was then proposed by Sir W S CHURCH, seconded by Dr NORMAN MOORE and carried unanimously —

The PRESIDENT then dissolved the Comitia.

exceptional quality at their disposal, and they have had the sense to realise what many English spas have been too long in realising—that if their "cure-house" is to compete with more famous Continental rivals the patient must be the central figure in their community, and the life of the place must be subordinated to the requirements laid down by his physician for his welfare. But the visitors are not all invalids at Woodhall, and life need not be dull for the holiday maker who only needs restful recreation. For him there have been provided tennis courts, a cricket ground, a croquet ground, a band-stand, and above all these a well-kept golf links with sand and heather bunkers among pine and larch woods that form a background. Near the golf club's quarters is the Clevedon club-house, of which we are able to give an illustration. The club of which Fig. 2 is an illustration is a social club for which visitors are eligible. But of all its attractions Woodhall Spa takes its waters the most seriously, and its visitors in search of relief will be well advised to follow its example.

In conclusion, we wish to express our thanks to Dr. Calthrop and his fellow directors for the hospitality and courtesy which was extended to our representative during a very pleasant and interesting visit.

SANITATION IN INDIA.

V.[1]—JAILS (*continued*).

North-West Frontier Province.

THE administration report of the jails of the North-West Frontier Province for 1907 is furnished by Lieutenant-Colonel G. W. P. Dennys, I.M.S., the officiating administrative officer of the province. The judicial statistics show that the jail population remaining on Dec. 31st was 1307, or 144 more than on the corresponding date of 1906. It is very satisfactory to note that the reformatory school at Delhi has been made available for the reception of youthful offenders of the North-West Frontier Province, so that it is to be hoped that in the future such prisoners will not be sent to jail, where the baneful influence of prison life has the effect of doing them more harm than good. A point which is well brought out in the report is that with respect to the length of sentence of the prisoners. It is shown that the percentage is highest in the case of prisoners sentenced to imprisonment up to one month. Attention is drawn to this, because it is very difficult to find any suitable form of hard labour for short-term prisoners, the result being that these short sentences are not sufficiently deterrent, and so jail life is apt to lose much of the terror that it ought to hold in the minds of the free population. Colonel Dennys insists that corporal punishment, when permissible, is much preferable to short sentences.

With respect to the internal economy of the jails, the upper subordinates have worked with much greater zeal and energy, and this fact is no doubt due to the improvement in the pay and prospects of jailers and assistant jailers of the province effected by the reconstitution of the jail service in 1907. The scales of pay and grade sanctioned for the Punjab have been introduced into the province, with the addition of a frontier allowance to jailers but not to assistant jailers, as it was thought at the time that educated men of respectable families would be induced to take service in the jail department for the prospects of being promoted to jailerships. This expectation, however, has not been realised, so that the addition of frontier allowances will most probably have to be granted to assistant jailers as well as to the jailers.

With respect to the vital statistics of the jails, Colonel Dennys notes that the condition as regards overcrowding is satisfactory. This diminution of overcrowding is doubtless due to the wise system introduced by this officer in 1906 of making superintendents always keep in hand a list of prisoners whose transfers have been sanctioned, but who would only be despatched in the event of overcrowding seeming imminent by a rapid rise in the jail population. He points out with reference to this measure that a larger amount of extra work is thrown on the jail staff by the constant preparation of long lists of prisoners for transfer from one jail to another, whilst also great inconvenience to the police is caused in having to arrange at frequent intervals for the necessary guards to accompany the prisoners on transfer, which are often required at short notice, whilst such transfers also entail much expense. For the money thus spent a great deal of the extra jail accommodation required in the province could have been provided. The remedy, of course, lies in increasing the accommodation in the jails; such increase has been sanctioned by the Chief Commissioner of the province in the case of the Dera Ismail Khan jail, and it is to be hoped that this sanction will be extended to the Bannu and Kohat jails in the future.

The supply of drinking water at all the jails was ample and good, but might be made still more satisfactory in some of the jails if pipe water were introduced in the place of surface wells, as at Dera Ismail Khan and Bannu. The admissions into hospital of average strength were 1242 per 1000, the daily average sick 35, and deaths from all causes 17·47, as contrasted with the figures for 1906, 1485, 35, and 23·47 respectively. The health of the prisoners on the whole was therefore better than in the previous year, although the death-rate in Dera Ismail Khan of 29·65 per 1000 was very heavy. With respect to the different diseases, the admissions for malarial fevers fell from 927 per 1000 in 1906 to 489 in 1907. No deaths from malaria occurred. Quinine was issued to all convicted prisoners in 15-grain doses of the liquid solution every fifth and sixth day from July 1st to the end of the fever season. This issue conferred a considerable immunity against malaria, which, however, is not perceptible until after the first month of treatment.

There were 11 admissions for tubercle with four deaths. Colonel Dennys wisely advises, if possible, to release prisoners suffering from tubercle of the lung on the ground of bodily infirmity, under paragraph 535 of the Jail Manual, as there are no satisfactory arrangements for treating such cases in the jails, and their presence is always a source of danger to other prisoners. The highest mortality from disease was shown in the cases of pneumonia admitted, the case mortality being 25 per cent.; this high mortality was only to be expected after the severe malaria prevalent in the autumn of 1906. Diarrhœa gave an unusually heavy and excessive number of admissions over those of the two previous years, and inquiries as to the causation of this excess are being made. Colonel Dennys records high praise to the superintendent of his office, Mr. E. Penn David, and to his clerks, and the report then closes with the usual appendices. In reading this report we cannot help being struck with the faculty so well possessed by the administrative medical officer of giving all his facts in well chosen, concise language.

United Provinces.

Lieutenant-Colonel S. H. Henderson, I.M.S., the officiating Inspector of Prisons for the United Provinces, furnishes the report for 1907. The jail population in these provinces was normal until late in the year, when the complete failure of the *rabi* crops had its effect, and in certain districts the under trial population began rapidly to rise at the end of the year, so that an increase of 1363 prisoners for the year 1907 resulted over the number for 1906. With regard to the prisoners generally, it is satisfactory to note that the number of juveniles under 16 years was 154, as compared with 191 in 1906. This satisfactory reduction in their number is probably due to the more summary punishment by whipping, but also may be owing to the increasing disinclination of magistrates to send children to jail. These juveniles are not allowed to mix with ordinary prisoners; they are taught reading, writing, and arithmetic, and are drilled regularly in addition to ordinary convict labour, all of which proceedings are very wise. With regard to the treatment of non-habitual youths between the ages of 16 and 20, they have always been a very difficult problem to deal with. They can be kept separate at night in cubicles in special wards, but it is found practically impossible to prevent their coming into contact with other persons only too ready to influence them for evil during the day. Lieutenant-Colonel Mactaggart, the predecessor of Lieutenant-Colonel Henderson, wisely suggested, as at least a partial remedy, the opening of a special juvenile jail for boys of this class, and recommended the use of the old reformatory school building at Bareilly, This not being in use, for conversion into such a jail.

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[1] Nos. I., II., III., and IV. were published in THE LANCET of April 10th (p. 1067) and 24th (p. 1199), and May 1st (p. 1269) and 15th (p. 1412), respectively.

scheme, which has been sanctioned by the Lieutenant-Governor, would seem to answer admirably the purpose involved, for by it the accommodation is sufficient, hard work and rigid discipline can be insisted on, as it is near the Bareilly central jail, and so can be efficiently supervised by the superintendent of that jail; each boy will be taught, according to his caste and previous occupation, a handicraft which he can follow on his release. Their physical development will be favoured by the drill, and the teachers and warders will be specially selected. The Inspector-General hopes that by these means permanent good results will accrue to the youths [illegible] admitted, there was a slig [illegible] of age, due no doubt to [illegible] which caused some of those who could not support themselves to resort to petty thefts. Many of these old prisoners were in truth more fit subjects for admission to a poor house than to a jail. The progressive rise in the number of [illegible] 1907; this is probably [illegible] remedy would seem t[illegible] of jail life by making it as unpleasant as possible by more frequent combination of solitary sentences with rigorous imprisonment. Cubicle barracks, which are still wanting in many of the jails of this province, are very desirable.

With respect to the special industries carried on in these jails, these embrace moonji matting, blanket weaving—the latter in the Bareilly jail being probably the exciting cause of an outbreak of anthrax, as on its occurrence all wool was ordered to be boiled and treated with lime, when no more cases occurred—carpet and durrie weaving, tent making, basket making, cloth weaving, oil pressing, tile making, printing, carpenters' and blacksmiths' work, with building operations. All the jail factories were worked at a profit.

Respecting the vital statistics of these jails, there was not during 1907 much difference observable from those of 1906. The rates of admissions per 1000, of sick, and of deaths were for 1907, 603·0, 28·7, and 15·0, as compared with 602·7, 26·5, and 16·5 for 1906. As regards the chief diseases, we note that a very fatal epidemic of influenza with pneumonia occurred in the Agra jail, there being 45 admissions with ten deaths, which is a very high rate, whilst in the whole province there were 278 admissions with 80 deaths from pneumonia. At Lucknow jail there was a prevalence of cellulitis, the primary cause of which was never satisfactorily made out. Special precautions were taken in obtaining dry earth for the latrines and other purposes, and under these precautions the disease began gradually to disappear. Tl[illegible] tion of all [illegible] of beri-ber[illegible] which was also not discovered; the jail is an excellent one, with no overcrowding, and in very good sanitary condition. The use of rice was stopped early in October and is not likely to have caused the epidemic, which began later. This disease was new to the jails in that province. The symptoms were chiefly œdema of the feet and legs, [illegible] cases. Although the opinion is stated that rice was not the cause of the disease as it was stopped early in October, yet there seems to have been one case at least of the disease early in September before the rice rations were abolished, so that this opinion is not altogether conclusive against such a cause. [illegible] to preve[illegible] nullified [illegible] they breed freely. The Inspector-General thinks the more systematic prophylactic use of quinine in the unhealthy season of the year might be more freely tried in some of the unhealthy jails of the province with good effect. The report concludes with the usual appendices. Colonel Henderson also gratefully acknowledges the excellent work done by his head assistant, and by his head and other clerks.

Province of Eastern Bengal and Assam.

The report of the jail administration for Eastern Bengal and Assam for 1907 is furnished by the Inspector-General of Prisons, Lieutenant-Colonel R. R. Wei[illegible] gives the following details. The total numb[illegible] admitted during the year was 36,382, against [illegible] the daily average being 8098 against 7726 in the preceding year. This increase of 372 is attributed to longer average of length of sentences, as generally there has been a decrease in crime. We again notice that there is no provision in any jail in the province for the special and complete separation of juveniles from the general jail population; it is to be hoped that the authorities concerned will awaken to the desirability of this procedure for the sake of the future of these juveniles. The report gives all particulars regarding sex, religion, previous occupation, education, nationality, and terms and nature of imprisonment. With regard to the [illegible] of jail accommodation, overcrowding occurred in [illegible] the jails of the province during the year, particularly [illegible]ase of those under trial; this was partially overcome by placing surplus prisoners in temporary sheds, worksheds, and verandahs.

Regarding the vital statistics for 1907, the ratio per 1000 of admissions into hospital for 1907 was 837·03, the daily average sick 35·35, and the mortality 28·40, as contrasted with 876·43, 40·14, and 27·95 for 1906. The daily average number of prisoners mentioned above was the highest for the past ten years, yet the hospital admissions were lower than in any of the preceding ten years, except those for 1904 and 1906, and that in spite of almost general overcrowding; the cases actually admitted, however, were of a severe type, judging from the rate of mortality. With respect to the nature of the diseases met with, dysentery, we are glad to see, showed a decrease; there was a rise in malarial fever—viz., 1904, against 1669 in 1906. The number of deaths, however, fell from 25 to 21. Beri-beri was reported present in four jails; there were three admissions for enteric fever, all of which ended fatally. Epidemic dropsy caused 44 admissions, with three deaths; the Inspector-General reports that segregation, with a change to a more liberal diet, effectively checked the disease. The bad effect of influenza with overcrowding was shown in the Feridpur jail, where the health was the worst since 1900. Dysentery, ague, pneumonia, and tuberculosis very greatly prevailed in this jail.

Many improvements bearing on sanitation have been carried out in 1907; thus ventilation, drainage, conservancy, water-supply, and cooking arrangements have all been bettered, and other important matters attended to, such as the clearing away of surrounding jungle from certain jails, the removal of insanitary cattlesheds, and improvement of the ground level. The report concludes with the various methods by which the prisoners were employed and the financial questions involved. The Inspector-General finally mentions with praise the work of the various superintendents, and especially draws attention to the successful management of the Barisal jail and the remarkable diminution in the sickness and mortality there, due "to the careful and unremitting supervision of Captain O. St. John Moses, I.M.S." Only those who have had charge of an Indian jail can fully appreciate what these words of praise signify. The usual statistical tables complete the report.

Looking Back.

FROM

THE LANCET, *SATURDAY*, May 21st, 1831.

CRYSTALLISED IODURET OF LEAD.

M. CAVENTOU, of Paris, has discovered the following simple method of obtaining this valuable medicine in a crystalline form. On adding any solution of lead to a solution of the hydriodate of potassa, a canary-coloured precipitate of a minutely crystalline texture is thrown down. This precipitate has hitherto been considered as insoluble in water. M. Caventou has found that it is abundantly dissolved in hot water, and from this solution it crystallises on cooling in crystals of considerable size and of the utmost beauty. We have, on repeating this process, been astonished at the singular splendour of the product thus obtained. It so strongly resembles highly polished gold, that several persons have mistaken it for that metal. No [illegible]-sis has yet been made of the respective [illegible]e and lead in this compound. By calcula[illegible] to be composed of iodine 100, lead 85-5.

M. Caventou's improvement is described in the *Lancette Française*.

The clinical experiments now performing by MM. Cottereau and Verdet de Lisle, at the Hopital de la Pitie, appear to indicate, that of all the preparations of iodine, this possesses, in the highest degree, the property of resolving scrofulous and scirrhous engorgements: at least this may be inferred from the remarkable and rapid improvement experienced by the patients in whom it has been tried, and who had all been previously using iodine and the hydriodate of potassa, both internally and externally, without success. M. Guersent has also found it of the most signal advantage in several cases at the Hôpital des Enfans.—*Journal Hebdomadaire.*

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8240 births and 4322 deaths were registered during the week ending May 15th. The annual rate of mortality in these towns, which had declined in the eight preceding weeks from 22·1 to 14·1, further declined to 13·7 in the week under notice. During the first six weeks of the current quarter the death-rate in these towns averaged 15·4 per 1000; the rate in London during the same period did not exceed 14·9. The lowest recorded annual death-rates in these towns last week were 5·9 in Handsworth, 7·2 in Bournemouth, 7·5 in East Ham, and 8·0 in Northampton; the rates in the other towns ranged upwards, however, to 22·9 in Oldham, 23·3 in Bootle, 24·1 in Coventry, and 24·7 in Wigan. In London the recorded death-rate during the week did not exceed 13·1 per 1000. The 4322 deaths from all causes in the 76 towns last week showed a further decline of 140 from the numbers returned in recent weeks, and included 394 which were referred to the principal epidemic diseases, against numbers declining from 593 to 445 in the five preceding weeks; of these 394 deaths, 170 resulted from measles, 95 from whooping-cough, 44 from scarlet fever, 37 from diarrhœa, 29 from diphtheria, and 19 from "fever" (principally enteric), but not one from small-pox. The 394 deaths from these epidemic diseases in the week under notice were equal to an annual rate of 1·2 per 1000, against rates declining from 1·9 to 1·4 in the five preceding weeks. No death from any of these epidemic diseases was registered last week in Gateshead, Plymouth, Northampton, Rochdale, York, or in eight other smaller towns; the annual death-rates therefrom ranged upwards, however, to 3·2 in in Salford, 4·5 in Bootle, 5·2 in Wigan, and 7·5 in Wolverhampton. The fatal cases of measles in the 76 towns, which had steadily declined in the eight preceding weeks from 438 to 198, further fell last week to 170, but caused death-rates ranging upwards to 2·2 per 1000 in Warrington, 3·0 in Bootle, 3·5 in Wigan, and 7·5 in Wolverhampton. The deaths from whooping-cough, which had been 131, 113, and 109 in the three previous weeks, further declined last week to 95, the highest death-rates from this disease being 1·3 in Willesden and Coventry, 1·5 in Middlesbrough, and 1·6 in St. Helens and in Swansea. The 44 fatal cases of scarlet fever showed a slight increase upon recent weekly numbers, and caused the highest death-rates, 1·1 in Blackburn and 1·3 in Merthyr Tydfil. The 37 deaths attributed to diarrhœa were fewer by five than the number in the previous week. The 29 fatal cases of diphtheria were considerably below the number returned in any previous week of this year, and showed no marked excess in any of the towns. The 19 deaths from "fever" showed an increase of 12 upon the low number in the previous week, and included three in Hanley, equal to an annual rate of 2·3 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had decreased in the ten preceding weeks from 2873 to 2175, had further declined to 2173 at the end of last week; 313 new cases were, however, admitted to these hospitals during the week, against 265, 305, and 309 in the three preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had declined from 341 to 212 in the four preceding weeks, were 222 last week, and 33 below the corrected average number in the corresponding week of the five years 1904–08. The deaths in London referred directly to influenza, which had been 45, 32, and 16 in the three preceding weeks, rose again to 20 in the week under notice. The causes of 26, or 0·6 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. The causes of all the deaths registered during the week were again duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 55 other smaller towns; the 26 uncertified causes of death included three each in Birmingham, Sunderland, and Gateshead, and two each in Liverpool, Sheffield, and South Shields.

HEALTH OF GLASGOW AND EDINBURGH.

The annual rate of mortality in Glasgow, which had been equal to 19·3, 17·4, 18·1, and 16·3 per 1000 in the four preceding weeks, further declined to 15·2 in the week ending May 15th. During the first six weeks of the current quarter the death-rate averaged 17·7 per 1000, whereas the mean rate during the same period did not exceed 14·9 in London and 16·6 in Edinburgh. The 254 deaths from all causes in Glasgow last week showed a decline of 19 from the number in the previous week, and included 23 which were referred to the principal epidemic diseases, and were fewer by 19 than those returned in the preceding week. These 23 deaths were equal to an annual rate of 1·4 per 1000. The eight fatal cases of whooping-cough showed a marked decline from the numbers in recent weeks. One death from cerebro-spinal meningitis was registered. The deaths referred to diseases of the respiratory organs, which had declined in the four preceding weeks from 71 to 50, rose again to 55 in the week under notice. The 154 deaths registered during the week included 78, or 30·7 per cent., which were recorded in public institutions, against 92 and 91 in the two previous weeks. The causes of 13, or 5·1 per cent., of the deaths registered last week were unspecified or uncertified, whereas in London the causes of all but one of the 1216 deaths registered last week were duly certified. In Edinburgh the annual rate of mortality, which had been equal to 18·5, 17·2, and 16·3 per 1000 in the three preceding weeks, further declined to 14·2 in the week ending May 15th. During the first six weeks of the current quarter the death-rate averaged 16·6 per 1000, the mean rate during the same period in Glasgow being equal to 17·7. The 97 deaths from all causes last week in Edinburgh showed a further decline of 14 from the numbers in recent weeks, and included but four which resulted from the principal epidemic diseases, all of which were fatal cases of whooping-cough. These four deaths were equal to an annual rate of 0·6 per 1000, against 2·6 and 1·6, the rates from these principal epidemic diseases in the two preceding weeks. The 14 deaths referred to diseases of the respiratory organs corresponded with the number in the previous week. Five of the deaths in the week were the result of violence. Of the 97 deaths registered during the week, 37, or 38·2 per cent, occurred, in public institutions, against 27 and 44 in the two preceding weeks. The causes of seven, or 7·2 per cent., of the deaths registered during the week were not certified; while in Glasgow the proportion of uncertified causes did not exceed 5·1 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had steadily declined in the four preceding weeks from 27·7 to 18·8 per 1000, further fell to 18·5 in the week ending May 15th. During the first six weeks of the current quarter the death-rate averaged 22·8 per 1000, whereas the mean rate during the same period did not exceed 14·9 in London and 16·6 in Edinburgh. The 141 deaths of Dublin residents from all causes during the week under notice showed a further decline of three from the numbers returned in recent weeks, and included 11 which were referred to the principal epidemic diseases, against 16 and eight in the two preceding weeks. These 11 deaths were equal to an annual rate of 1·4 per 1000, the death-rate from these principal epidemic diseases in the same week being equal to 1·2 in London and 0·6 in Edinburgh. Of the 11 deaths from these epidemic diseases in Dublin last week, five resulted from whooping-cough, three from measles, two from "fever," and one from diarrhœa, but not one either from scarlet fever, diphtheria, or small pox The fatal cases of whooping cough measles, and "fever" exceeded the numbers in the previous week The 141 deaths registered last week included 21 of infants under one year of age and 51 of persons aged upwards of 60 years, the deaths of elderly persons considerably exceeded the number in the previous week Six inquest cases and two deaths from violence were registered last week, and 53, or 37 6 per cent, of the deaths occurred in public institutions The causes of four, or 2 8 per cent, of the deaths in Dublin during the week were not certified either by a registered medical practitioner or by a coroner, in London the causes of all but one of the 1216 registered deaths were duly certified, while in Edinburgh the proportion of uncertified causes was equal to 7 2 per cent

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE following appointments are notified —Staff Surgeons A C Bean to the *Pembroke*, additional, for disposal, J Martin to the *Magnificent*, and H L Geoghegan to the Royal Marine Infirmary, Deal

ROYAL ARMY MEDICAL CORPS

Lieutenant Colonel John Carmichael is placed on retired pay (dated May 5th, 1909)

Colonel H J R Moberly has been appointed officiating principal medical officer, Presidency and Assam Brigades, and Lieutenant Colonel F P Nichols has been appointed to the command of the Station Hospital, Jullundur

INDIAN MEDICAL SERVICE

The King has approved of the retirement of the following officer Colonel David Wilkie (dated April 2nd, 1909)

MILITIA

Royal Army Medical Corps

Captain William Fletcher, D S O, resigns his commission (dated Sept 20th, 1908)

TERRITORIAL FORCE

Royal Army Medical Corps

Lowland Mounted Brigade Field Ambulance The promotion to a Lieutenant-Colonelcy of Major Robert T Halliday and to a Majority of Captain Hugh W Thomson bears date April 1st, 1908

2nd London (City of London) Field Ambulance Percy Cecil Parker Ingram to be Lieutenant (dated March 30th 1909) Haldinstein David Davis to be Lieutenant (dated April 16th, 1909)

4th Scottish General Hospital Lieutenant Colonel (Honorary Surgeon Colonel, Retired List, Volunteers) Alexander Napier, from the Mobilisation List, to be Lieutenant Colonel, with the honorary rank of Surgeon Colonel (dated March 22nd, 1909)

1st Home Counties Field Ambulance Captain William J [illegible]

Volunteer Battalion, The Welsh Regiment, to be Lieutenant Colonel, with the honorary rank of Surgeon Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908) Ewen John Maclean to be Major (dated March 11th 1909)

Attached to Units other than Medical Units—Lieutenant George McKellar to be Captain (dated April 1st, 1908) Major John F Tabb to be Lieutenant-Colonel (dated April 4th, 1908) Captain Herman Stedman to be Major (dated Nov 23rd, 1908)

For attachment to Units other than Medical Units—Robert Bruce to be Lieutenant (dated March 17th 1909) Alfred Edward Arthur Carver to be Lieutenant (dated March 30th, 1909) Herbert Pye Smith Devitt to be Lieutenant (dated March 30th 1909) Donald Sage Sutherland to be Lieutenant (dated March 30th, 1909) Surgeon Lieutenant-Colonel and Honorary Surgeon-Colonel Edward Morton Garstang from the 2nd Volunteer Battalion The Loyal North Lancashire Regiment, to be Lieutenant Colonel, with the honorary rank of Surgeon Colonel with precedence as in the Volunteer Force (dated April 1st, 1908) Supernumerary Captain Frederick Lace from the 4th Battalion The Prince Albert's *(Somersetshire Light Infantry)*, to be Major (dated March 1st 1909) James McGlashan to be Lieutenant (dated March 31st 1909) Frederick William Higgs to be Lieutenant (dated April 1st 1909) James Alexander Raeburn to be Lieutenant (dated April 13th, 1909) Robert Vernon Giraud Monckton to be Lieutenant (dated April 16th, 1909)

Officers Training Corps

The undermentioned officer to be Captain —Edinburgh University Contingent Senior Division Lieutenant John M Darling (dated July 17th, 1908)

EXAMINATION FOR SURGEONS IN THE ROYAL NAVY

At the entrance examination for Surgeons in the Royal Navy, completed on May 14th, 32 candidates presented themselves for 15 vacancies Two gentlemen withdrew eight were rejected for physical defects and of the remaining 22 18 obtained qualifying marks The following is the list of successful candidates —

	Marks		Marks
K H Hole	2151	J S Orwin	1635
G F Syms	1963	J Barrett	1645
A A Sanders	1933	H W Nichols	1638
M P Fitzgerald	1927	R P M Roberts	1505
J Hadwen	1914	M G Malcolm	1495
H F Briggs	1900	H C Devas	1420
G A Jackson	1734	H Burns	1405
W Miller	1710		

The above named gentlemen will undergo a course of instruction in special subjects at Haslar Hospital, on the completion of which another examination will be held, and prizes consisting of a gold medal a silver medal, and three Navy regulation pocket cases awarded The final position on the list will be determined by the combined results of the London and Haslar examinations

THE TERRITORIAL DECORATION

The King has conferred the Territorial Decoration upon the undermentioned officers of the Territorial Force who have been duly recommended for the same under the terms of the Royal Warrant dated August 17th, 1908 —

London District Royal Army Medical Corps Major John Frederic Tabb

Scottish Command Royal Army Medical Corps Colonel John Scott Riddell, M V O

Western Command Royal Army Medical Corps Sanitary Service Lieutenant Colonel Nathaniel Edward Roberts

THE TENURE OF ROYAL ARMY MEDICAL CORPS APPOINTMENTS

The May issue of the *Journal of the Royal Army Medical Corps* contains a communication from the Director General of the Army Medical Service relating to the tenure of Royal Army Medical Corps appointments Some of the appointments may now be held for three years with a possible extension to five years and some for four years only In a future issue of THE LANCET we hope to deal more fully with this important communication from the Director General of the Army Medical Service, which is published for general information

THE INCOME TAX AND INDIAN OFFICERS

In the House of Commons on May 13th Mr Smeaton asked the Chancellor of the Exchequer whether it was his intention to continue the exemptions and abatements on their small home incomes to Indian civil and military officers resident on duty in India who were in receipt of salaries from the Indian Government Mr Hobhouse replied that it was not intended to exempt Indian civil and military officers resident in India and receiving salaries from the Indian Government from the proposed obligations on persons resident abroad to pay full income tax

THE ORDER OF ST JOHN OF JERUSALEM IN ENGLAND

His Royal Highness the Prince of Wales has nominated Major R J Blackham R A M C, an Honorary Associate of the Order of St John of Jerusalem in England

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ROYAL BRITISH NURSES' ASSOCIATION —The annual meeting of this association will be held at 3 30 P M to day Friday May 21st at the Imperial Institute H R H The Princess Christian of Schleswig-Holstein has graciously signified her intention to preside

Correspondence.

"Audi alteram partem."

THE MEDICAL TREATMENT OF LONDON SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—I cannot help thinking that your correspondents have misapprehended the intentions of the London County Council in the above matter. They write as if it were the wish of the Council to get the school children treated by the honorary staffs of the hospitals, and treated gratuitously. So far as I can discover this misrepresents entirely the view of the Council. What is desired is (1) to utilise the accommodation and equipment of the out-patient departments of the hospitals at times when these are not otherwise in use and to pay a reasonable rent for the privilege of doing so; and (2) to appoint special salaried officers to attend the school children in the accommodation thus provided. The honorary staffs of the hospitals would not be asked to undertake the work, but it certainly would be an advantage if the special paid officers could act under the supervision of members of the hospital staffs, for in that case the Council would be able to waive the question of inspection.

There is here no question of "subsidising" the hospitals; the latter simply rent out rooms at hours when they are not wanted for the ordinary out-patient work and the salaries of the special medical officers need not be paid through the hospitals at all. In any case, the principle of paid clinical assistants is no new one and is already in operation at some hospitals.

If, of course, the out-patient department of any hospital is working at such high pressure that all of its rooms are in use all day that settles the question as far as that particular institution is concerned, but this is certainly very far from being the case with those with which I am best acquainted.

The case against school Clinics seems to me very strong. If the Council is driven to adopt them it would mean setting up what are virtually a number of small children's hospitals, or, at the least, out-patient departments, all over London at great cost to the rate-payers. These would inevitably compete with the hospital out-patient departments and would draw away from them a large amount of valuable clinical material.

Observe, too, that this increased expenditure on bricks and mortar is to be undertaken in spite of the fact that the number of *children in the London school area is declining*; that the number of out-patients at some at least of the hospitals is also declining; and that within a year or so of the establishment of the Clinics the arrears of children needing treatment would have been worked off and the number to be dealt with weekly would have sunk to comparatively insignificant proportions. The Clinics would then have become of the nature of white elephants, and in order to justify their existence would probably start treating general medical and surgical ailments in addition to those special troubles for dealing with which they were first called into existence.

I have said nothing of the legitimate interests of the general *practitioner as I do not think these are likely to* suffer more under one scheme than under the other. If the Clinics are established they will certainly need to be officered by specialists and the appointments on them are likely to go to junior consultants who are not yet attached to any honorary staff. It is not probable, therefore, that any of the money to be paid for treatment at the Clinics will find its way to the practitioner. As to what is to be done in the case of those children whose parents can pay for private medical treatment there is need for discussion, but if the Council is unjust enough to treat these at the expense of the ratepayers the establishment of Clinics would only facilitate such an intention. I hope, therefore, that before it is too late the hospitals will reconsider their position and try to meet the Council half way, for if the alternative of school Clinics is adopted I feel convinced that it will be the members of the hospital staffs who, next to the ratepayers, will be the first to regret it.

I am, Sir, yours faithfully,
May 19th. ROBERT HUTCHISON.

To the Editor of THE LANCET.

SIR,—Those of us who are members of the honorary medical staffs of the metropolitan hospitals ought to owe you a debt of gratitude for opening your influential columns to a discussion of this important question. I have reason to believe that some of the hospital secretaries, as well as several members of the boards of management, are greatly tempted by the alluring bait of a little extra money—the proposed subsidies or capitation grants—to fall in with the wishes of the "Education Department of the London County Council"; and there can be little doubt that if the honorary staffs of the various hospitals do not make a firm stand our services will be still further exploited to the detriment of the general practitioners of the respective neighbourhoods. For many years I have been calling attention to the unwarrantable demands of the late "School Board" and of their successors, the "Education Department of the County Council," on the gratuitous services of the hospital staffs, and I personally have always declined to sign their official documents or to do work for which their own officers should be responsible. On the present occasion I have distinctly stated to the authorities of my hospital (1) that it is not my intention to treat any cases which may be sent to the hospital by the school nurses or inspectors which do not seem to belong to the hospital class; (2) that not being an officer of the London County Council I shall not sign their official documents or perform the duties of a sanitary or medical officer of the department; and (3) that I shall not be dictated to as to my methods of treatment by any such outside body as the London County Council. It seems that the cases of ringworm are to be sent to my department "*for x ray treatment*"; it so happens that I decline to treat all cases of this disease by that method—I know I am not "in the fashion"—as I get excellent results in early cases in other ways; and I regret that I cannot agree with the writer of your leading article on the Roentgen Ray Treatment of Ringworm (May 15th), that "so far as our knowledge goes, it is perfectly free from harm." I know of several cases in which extensive scarring or permanent alopecia has been the result of, and others in which the disease has not been cured by, x ray epilation—at the hands, indeed, of skilled operators.

I am, Sir, yours faithfully,
Henrietta street, W., May 17th, 1909. PHIN. S. ABRAHAM.

THE SPREAD OF TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—I have read with considerable interest Dr. J. G. Emanuel's address on the Spread of Tuberculosis published in THE LANCET of May 15th, p. 1369. Whilst agreeing with most of his arguments, there are two points upon which I should like his explanation. Whence does he derive his information for the following statement?—"The appearance of phthisis in places now used as health resorts, previously immune from the disease." He mentions certain places in the South of Europe where *it is alleged* such infection has occurred. It is of importance that no undue alarm should be caused by exaggerated statements as to the infectivity of pulmonary tuberculosis and that any *opinion in regard to the spread of the disease* should be fully supported by experience. Already serious inconvenience has been caused to the unfortunate sufferers from the disease by their exclusion from certain European resorts, and Dr. Emanuel's remark quoted above is likely to add to the feeling of nervousness already felt as regards the justification of allowing tuberculous individuals to mix with their fellow creatures at such resorts. As far as I am aware no such statistics as would support Dr. Emanuel's statement have yet been published: if they have I should be obliged if he would be good enough to give me the reference. The infectivity of pulmonary tuberculosis cannot be denied, but undue exaggeration of the fact is likely to lead to uncalled-for disaster to individuals.

Dr. Emanuel also remarks that the subject of his address was prompted by the knowledge of the attitude of insurance companies in reference to a family history of tuberculosis." He says: "As soon as an individual applies to insure his life, if there is any consumption in his family he is made to pay a high premium if he be not actually refused; whereas another applicant with a good family history is passed as a first-class life, though he may be daily exposed to infection either at home through his wife and children or at his daily work." This statement requires considerable modification. At some of the large insurance companies, when there is a family history of tuberculosis, before any addition is made to the premium full inquiries are made as regards the possibility of infection, and the physique of the applicant is also duly noted. In other words, the family history is not deemed sufficient cause for an increase unless the incidence of tuberculosis is very marked.

I am, Sir, yours faithfully,

F. J. WETHERED.

Harley-street, W., May 15th, 1909.

To the Editor of THE LANCET.

SIR,—No one dissents nowadays from the dogma that tuberculosis is an infective disease, but there must be many who are not prepared to accept Dr. J. G. Emanuel's conclusion that heredity is a negligible factor or to admit that his interpretation of the facts is correct. Let me draw attention *to the statement that there can be no sharp distinction* between susceptibility and immunity because 1 in 9·5 of all persons dies from tuberculosis. In the six families quoted by him, comprising some 55 persons, 14 died from tuberculosis and some 10 more were suffering from the disease; a probable death-rate of 1 in 2·3 in tuberculous families. In other tuberculous families of which one has knowledge, three out of six, five out of eight, three out of eight, and so on, died from phthisis, showing that the families selected by Dr. Emanuel are not exceptional. On that reckoning there must be a large number of families where there is no death from tuberculosis, or only an occasional and more or less accidental one, and consequently there may be a very sharp line of distinction between susceptibility and immunity.

In order to see clearly the part which heredity plays in this disease it is necessary to differentiate the two main types of tuberculosis. The infantile form is almost entirely alimentary; if we recognise, as we must, that meningitis and general tuberculosis are merely disseminations from a primary lesion we can reckon them in the death-tables with the predominant primary lesion at each epoch. We find, then, that alimentary tuberculosis accounts for 85 per cent. of the deaths during the first five years of life, descending in *mortality from the first to the fifth.* It may be that heredity plays little or no part here. The second form is adolescent and respiratory. It begins to reach a formidable figure about the fifteenth year when adolescence sets in; and it is to be noted that its ravages begin in girls earlier than in boys in accordance with the earlier onset of *adolescence.* Now the principal feature at this period is not increased opportunities of infection, but the development of inherited physical characters upon which depends the greater or less power to resist infection. Infection, which involves other considerations beyond a chance inhalation of tubercle bacilli, may occur then or at any time within the next 20 years or so, by [illegible] out, [illegible] noted [illegible] rease [illegible] live longer and increase the death-rate at a later age.

In adolescent tuberculosis, then, heredity assumes extreme importance; for the physical characters on which susceptibility rests admit of *development and strengthening* by suitable environment and training. Therefore the advice given by Dr. Emanuel that we should devote our attention to the paths of infection and neglect the predisposition of the individual, appears to me pernicious and detrimental to the individual. The association of inherited physical characters of a tuberculous parent with a proneness to tuberculosis in the offspring has hitherto been generally accepted; but if it were necessary to adduce proof of it no doubt many general practitioners have knowledge of families where for two, three, or even four generations some physical conformation has been associated with phthisis. I have myself met with one striking example extending over three generations, as well as many of parent and child. It is certainly to be hoped that while every effort is made to destroy the opportunities of infection, the mistake will not be made of holding individual predisposition too cheaply.

I am, Sir, yours faithfully,

DONALD F. SHEARER.

Putney, S.W., May 17th, 1909.

PROPOSED LEGISLATION IN REGARD TO THE ADMINISTRATION OF ANÆSTHETICS.

To the Editor of THE LANCET.

SIR,—Several letters have recently appeared not only in your columns but in the lay press relating to a proposed Bill for controlling the administration of anæsthetics. These letters present great divergencies of opinion on the question whether *future* registered dental practitioners should be regarded as fitted to assume the responsibilities of general anæsthesia. In deciding such a question the paramount consideration must be the safety of the patients—viz., the British public.

It is obvious, I think, that he who renders another person surgically unconscious with any anæsthetic so disturbs the vital functions that, for the time being, the life of that person is completely in his hands. The public may therefore reasonably expect that the administrator of a general anæsthetic for a dental operation shall have undergone such general training as will enable him not only to recognise and meet emergencies connected with the anæsthetic but those also which might occur from accidents in the course of the operation—*e.g.*, *slipping* of a tooth or any *other foreign* body (such as a blade of forceps or portion of a prop) into the respiratory passages. Is the general medical and surgical training of the dentist such as to fit him to assume these responsibilities and to meet such emergencies?

Personally I am inclined to think that we should be consulting the best interests of the public by placing dental patients in the hands of the medical profession whenever it is necessary to administer a general anæsthetic. By such a line of action the reprehensible and dangerous practice of a single individual simultaneously assuming the functions of anæsthetist and operator would practically cease to exist. Apart, however, from these considerations as to the safety of the public it would, I think, be good policy for the dental profession to support a Bill which, if passed, would undoubtedly greatly restrict unregistered dental practice and might, perhaps, pave the way towards the goal desired by that profession—viz., the prohibition of this form of practice.

Why should not the proposed Bill be modified so as to prohibit the use of dangerous local anæsthetics except by registered medical and registered dental practitioners?

Such a modification would still further limit unregistered dental practice and would, I venture to think, be acceptable to the medical and dental professions.

I am, Sir, yours faithfully,

WILLIAM HERN.

Stratford place, W.

THE QUESTION OF COMPULSORY INSURANCE AGAINST SICKNESS.

To the Editor of THE LANCET.

SIR,—That the present system of medical attendance in this country can no longer be regarded as satisfactory, and that a new departure is imminent, is abundantly clear from the Poor-law Commission report and from the Chancellor of the *Exchequer's speech on the Budget. The Poor-law Com*mission has produced a great amount of evidence to show that not only those in receipt of relief but the poorest of the labouring classes are suffering from the want of a properly organised system of medical attendance. The writers of the Minority Report have painted the picture in still more lurid colours. No attention, they say, is paid by the majority of medical officers under the Poor-law to sanitary surroundings, and practically nothing is done towards the prevention of disease. "In too many unions, it is clear, outdoor medical relief begins and ends with a bottle of medicine." The writers of the Minority Report are probably most intimately acquainted with medical practice in London, but so far as the country and provincial towns are concerned I can testify from long experience in practice in [illegible] there is much that is true. Nor can it in present circumstances be otherwise. The conditions of medical attendance are such [illegible] treatment and attention is practically [illegible] medical officers [illegible] as a rule, underpaid. The out-patient departments of hospitals are so crowded that but little attention can be given to each individual case. The patients whom the physician or surgeon sees are entire strangers to him. He can know practically nothing of their mode of life, their means of subsistence, or their sanitary surroundings, and can therefore do but little towards the prevention of disease. Nor is it possible for a medical man who charges *6d.* or less for advice and medicine to give much attention to individual patients if he is to live by his profession. In some out-lying districts matters are still worse, for there, it appears, about half the people die without even having seen a doctor or got the conventional bottle of medicine. Bad as our system of medical attendance is from the patients' point of view, it is still worse from that of medical men, and if things continue as at present the general practitioner who knows the lives of his patients must soon vanish; and I am old-fashioned enough to believe that if he does, or if his place is taken by mere officialdom, it will be a grievous loss to the community.

While practically all are agreed as to the unsatisfactoriness of our present conditions of medical attendance, there are probably only a few who, like myself, have long urged in season and out of season that the only remedy for the present state of matters lies in direct interference by the State. Various methods have been possible in the past, but since members of the Cabinet, Labour Members of Parliament, and others have been visiting Germany and taking an interest in continental methods it is evident that for some time at least the system of compulsory insurance against sickness, and this, of course, must include medical attendance, will hold the field. In the Majority Report of the Poor-law Commission it is expressly stated that it was only the want of time that prevented them going fully into this matter, and it is quite evident that the proposal to solve this question by the increase of provident dispensaries would be utterly futile if compulsory insurance were not adopted. Besides, now that the Chancellor of the Exchequer has spoken and declared in favour of compulsory insurance, and the present Government is evidently prepared to grapple with it, it can no longer be regarded as a mere foolish dream of faddists. And, certainly, no one who has studied the system of compulsory insurance against sickness in Germany and their methods of medical attendance inaugurated and now in force for a quarter of a century can fail to see how that country has benefited by it. After endless modifications through experience, the method in those towns and districts where it is well carried out is extremely simple. A deduction is made from wages to which are added contributions from the employer and the State. The particulars are entered in a pass-book. When the worker or one of his family takes ill the pass-book is taken to the doctor of his choice, who sees the patient at his surgery or, if necessary, at his house. If the patient has to be removed to the hospital or goes to a convalescent home, payment is made from the compulsory insurance fund, and this has been done without interference with the excellent work carried on by friendly societies. No one can deny that, compared with our methods in our country, this is vastly to the advantage of the patient. But what as to the doctors? One hears over and over again that any system of this sort should be vigorously opposed by medical men, as medical men are so poorly paid in Germany and are so much worse off than in this country. I do not believe it, and statements of this sort made in medical journals I have not found to be supported by an atom of proof. I defy anyone to produce any medical man in Germany who, though he may have many complaints, will not at once admit that he is vastly better off with this system of insurance than he would have been without. It would take too much space to go into particulars, but be it carefully noted that this system applies only to those whose income is less than £100, or in exceptional circumstances £150, a year, and that those earning more than this sum [illegible] country they so often do, obtain treatment [illegible] or gratuitously. The Chancellor of the Exchequer [illegible] that for settling the details of this [illegible] the heads of friendly societies. Medical [illegible] equally interested, [illegible] is should be, but I [illegible] our profession have [illegible] interested.

I am, Sir, yours faithfully,
J. H. KEAY.

Greenwich, May 10th, 1909.

THE LATE SIR WILLIAM GAIRDNER

To the Editor of THE LANCET.

SIR,—In response to the wishes of Lady Gairdner [illegible] family I have undertaken to edit the medical and [illegible] papers and articles of the late Sir William Tennant [illegible] and to preface the collection with a biography. In order to render the work as worthy as possible of the memory [illegible] late professor I am desirous of enlisting the sympathy and help of his friends. I venture, therefore, to request [illegible] your columns that anyone who has in his possession letters or other literary remains of Sir William Gairdner will be so kind as to communicate with me.

I am, Sir, yours faithfully,
G. A. GIBSON, M.D. Edin.

3, Drumsheugh-gardens, Edinburgh, May 12th, 1909.

THE BUDGET AND MEDICAL PRACTITIONERS.

To the Editor of THE LANCET.

SIR,—Is it not beneath the dignity of the profession to take the ground which many have, and go cap in hand [illegible] ask the Chancellor of the Exchequer to grant [illegible] in the petrol tax, and to urge each member of the profession to seek the good offices of his Member of Parliament to assist us in the matter? It seems to me not only degrading, but [illegible] that we have no claim to any special abatement. We should face the expenses of our own profession like every [illegible] citizen and should be above asking or accepting doles; [illegible] we should have the manliness to fight for our just rights.

It is not in legitimate taxes where the shoe pinches us as a profession. But we do feel, and resent, the injustice we suffer in being coerced, under penalty, to give our work to the State as no other members of the nation are ever [illegible] to do. It is not just to demand from us certificates of death gratis; they are required solely [illegible] unfair to constrain us to notify [illegible] It should not be obligatory on resident or visiting [illegible] of the staffs of large or small hospitals to make post [illegible] examinations [illegible] on accidents [illegible] ment. Surely [illegible] burdened by [illegible] few of the ins[illegible] and it is in such cases where we suffer in dignity as [illegible] financially.

We do not wish, and ought not to seek, concessions; we ought, one and all, to contend for our rights as members of a noble profession and as citizens of this great empire. If we honoured ourselves more we should receive [illegible] honour in return. Let us cease asking for alms for the few and claim what is our birthright for all. If we [illegible] to accept concessions in taxation for those of us who happen to be sufficiently well off to be able to keep cars, what will the answer be when we claim as our right just payment [illegible] work done for the State?

I am, Sir, yours faithfully,
CLEMENT DUKES.

Rugby, May 15th, 190[illegible].

BOARDS OF GUARDIANS AND PUBLIC VACCINATORS.

To the Editor of [illegible]

SIR,—There is a slight inac[illegible] p. 1407 of this week's issue of THE [illegible] of Guardians and Public Vaccinators." [illegible] proposition is quite correct and you rightly [illegible] inequity; but it is not true to say that if a public resigns his vaccination the guardians can dismiss him from his Poor-law office, for this is not the case. But as it is nearly always the latter office that is underpaid it is mostly the district medical officer and not the public vaccinator who is forced to resign.

Apart from this slight inaccuracy, our service is greatly indebted to you for drawing public attention to a great abuse of the power of the guardians, certainly not contemplated by the legislation, and a great grievance both to Poor-law medical officers and to the medical profession generally.

I am, Sir, yours faithfully,
M. GREENWOOD,
Honorary Secretary, Poor-law Medical Officers' Association of England and Wales.
London, E C., May 15th, 1909.

EPSOM SALTS AS A POISON.

To the Editor of THE LANCET.

SIR,—With reference to my article in THE LANCET of April 24th, p. 1174, on Epsom Salts as a Poison, I have had my attention drawn by Dr. W. Sang to the fact that Cases 4 and 6 (Sang's case) present such points of similarity in respect of time, locality, sex, dose, and final result as to suggest the possibility that the two cases may be one and the same.

This opinion I am now in a position to verify. For although my references bear different dates I am satisfied that the scanty details of Case 4 in the *British Medical Journal* and the fuller report of Case 6 in a later issue of THE LANCET are concerned with one and the same subject, the former appearing as a "news" item, while the latter appeared as an original article.

I shall be glad if you will kindly publish this correction so that future references may not be vitiated.

I am, Sir, yours faithfully,
Brighton, May 15th, 1909. CHARLES FRASER.

BRISTOL AND THE WESTERN COUNTIES.

The University in Being.

NEWS reached Bristol on Monday evening, May 17th, to the effect that the University Charter had received the approval of the Privy Council and now only waits for the affixing of His Majesty's Sign Manual. Many churches rang their bells and ran up flags in recognition of the great importance of this event. It is 35 years since a public meeting was held to inaugurate a University College in Bristol, at which the late Archbishop Temple (then Bishop of Exeter) was one of the speakers. Two of the Oxford colleges, Balliol and New, gave substantial support to the scheme on certain general conditions, and in October, 1876, the College was actually opened in temporary premises. The Bristol Medical School, *which had already been at* work many years on an independent basis, [illegible] as the faculty of medicin [illegible] were opened in 1880, and [illegible] stantial additions have been made to these, the last being in 1904. These provide a home for faculties of arts, science, engineering, and medicine. There is no doubt that those who were most intimately concerned in promoting the welfare of the College saw in it the nucleus of a university, and, obedient to this vision, they have sustained the policy of expansion throughout. The support afforded by the public has not always been what it might, with a few brilliant and generous exceptions; but since the year 1899, when the University College Colston Society was founded, the public attention and interest have been increasingly concentrated upon the University scheme. This society has collected over £5000 for the University, and has enlisted the support of many eminent men who have spoken at the annual dinners. It was at the 1908 dinner that Mr. Henry Overton Wills's promise of £100,000 was made public. Since that time the development of the scheme has advanced rapidly. His Majesty's visit in July last was made the opportunity for presenting a petition relating to the charter, new buildings have been acquired, and funds collected, till the total value of University property has surpassed the minimum (£250,000) at which a charter can be granted; the city council has devoted an annual rate of 1*d*. in the £ towards the income of the University; and a Parliamentary Bill transferring the property and liabilities of University College, Bristol, to the University of Bristol has been approved by the governors of the former. Arrangements have also been made for the inclusion of the Merchant Venturers' Technical College in the University as a faculty of engineering. There are two family names which will always be honourably remembered in connexion with the foundation of the University of Bristol—those of Wills and Fry. Their support is not to be reckoned in pounds, shillings, and pence merely, though in this respect their contributions have been lavish; there is also a great debt of gratitude owing to them for the interest, personal influence, and capacity for organisation which have been freely devoted to the project which has now been crowned by the Royal approval. I must defer the consideration of the terms of the charter to a later communication.

Other University Intelligence.

Two appointments that are very gratifying to the Bristol Medical School have recently been made. The Bradshaw lecturer of the Royal College of Surgeons of England for 1910 is Mr. F. Richardson Cross; and Dr. J. M. Fortescue-Brickdale, the director of the Public Health Laboratory, has been made lecturer on Pharmacology to the University of Oxford.—At a recent meeting of the Workers' Educational Association, Mr. G. H. Leonard, professor of history at University College, who was in the chair, said that the working-classes were to have more representatives in the court of the *University of Bristol than in any other university court in* the kingdom. There were to be eight in all, the president and two members of the Trades Council, two members of the Friendly Societies' Council, two members of the Coöperative Society, and one member of the Workers' Educational Association. He also announced the provision at University College, by a lady who did not wish her name published, of two small scholarships for working people.

The Bristol City and County Asylum, Fishponds.

The medical superintendent of the Bristol County Asylum (Dr. J. V. Blackford) reports that during 1908 the admissions numbered 247 (103 men and 144 women). The percentage of recoveries on the admissions, excluding transfer cases, was 42·42, and compared favourably with previous years; 84 patients were discharged as recovered. The number of deaths during the year was 140—viz., 74 males and 66 females —the death-rate on the average number of resident patients being 15·09. Post-mortem examinations were made in 123 cases, *being over 87 per cent. on the total deaths, all of* which were due to natural causes. The highest number of patients resident at one time during the year was 915. The new wards for male patients are to be opened on May 25th.

An Interesting Compensation Case at Exeter.

At Exeter county court last week, before his honour Judge Lush Wilson, K.C., a claim for compensation was made by a *farm labourer against his employer, a local farmer. The applicant* was asked to clean out a tannery pit. The liquor to be removed from such pit consisted of the acid and bloody fluid which drained off the skins, the acid having been added to clean the skins. The acid percolated through the labourer's boots, caused vesicles to form on his feet, and eventually blood poisoning followed. His honour said the question he had to decide was that the blood poisoning was caused by accident arising out of his employment, and gave judgment for the applicant.

A Poor-law Medical Officer's Salary.

Some time ago the Local Government Board informed the Falmouth board of guardians that the salary of £20 per annum allowed to Mr. *Dudley R. Harris as medical officer to* the workhouse was inadequate, and the late inspector (Mr. Preston Thomas) spoke *very strongly about the matter.* At the last meeting of the guardians a letter was read from the Local Government Board asking the guardians to reconsider the salary of their workhouse medical officer. After some discussion it was resolved to refer the subject to the house committee. It is to be hoped that the guardians will follow the advice given them and award Mr. Harris an adequate salary.

A Proposed Memorial to Dr. Hugh Montgomerie of Penzance

It is proposed to endow a bed in the West Cornwall Infirmary, Penzance, to the memory of the late Dr. Hugh Montgomerie. Several subscriptions have been received including £200 from Mr. and Mrs. R. Bolitho. It is probable that the Lord Mayor of London, when he visits Penzance next month, will dedicate the bed, and the Lady Mayoress will be asked to receive purses on its behalf. Dr. Montgomerie was for some years honorary physician to the West Cornwall Infirmary, and his father and grandfather had also been members of the honorary staff to the institution.

The Local Government Board and the Torrington Board of Guardians.

At a meeting of the Torrington board of guardians held recently a letter was read from the Local Government Board taking exception to the appointment of the medical officer for the Dolton district being for a definite term, as proposed by the guardians, as the usual custom was for such appointments to be permanent. After a considerable discussion it was resolved to appeal to Mr. G. Lambert, M.P., to interview the President of the Local Government Board on the matter.

A Proposed Isolation Hospital for Tavistock.

At the last meeting of the Tavistock (Devon) urban council a letter was read from the Duke of Bedford, stating that if the Tavistock rural and urban councils decide to build a joint isolation hospital he would contribute half the cost if under £2000, or £1000 if the cost be over £2000. After some discussion a committee was appointed to draw up a scheme and report.

May 18th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

LAST Saturday it became known that the King and Queen would visit Birmingham on July 7th to open the new buildings at Bournbrook. Thus the long-cherished wish of the city is to be realised and the preparations, which were commenced with hope but without knowledge, will now be pushed rapidly forward. Several of the departments in the new buildings, including those of engineering, metallurgy, and mining, are finished and have been in use. The departments of chemistry and physics, the Harding library, and the tower are well advanced towards completion and the grounds are beginning to assume a pleasant and well-looked-after aspect. Visitors who have not seen the new part of the University will be surprised at the stateliness and beauty of the design and the magnificent scale upon which it is being carried out. The whole scheme will not be completed in this generation unless many bountiful donations are received, but the grandeur of the conception on which it is based is even now very evident. The magnificence as well as the utility of their new possession has not yet been fully grasped by the city as a whole, but the time will come when it will be universally realised and the city will look with pride upon what will be one of the most potent factors in its future history.

The Milk-supply and Tuberculosis.

At the provincial sessional meeting of the Royal Sanitary Institute held in the Medical Theatre of the University last week Mr. J. Malcolm initiated a discussion upon Tuberculosis and Milk-supply by an interesting paper dealing chiefly with remedial measures. It appears from Mr. Malcolm's statements and from the discussion which followed the expression of his opinions that the main obstacle to rapid improvement of the dairy cattle is expense. It was admitted that whilst testing and subsequent segregation of reacting cattle will eventually free the country from a formidable source of infection, still that process is relatively slow, and to make it thoroughly effective it must be combined with improvement of the buildings in which the animals are housed. It was urged that in the long run the most economical method was the destruction of the infected cattle, for by that means the best prices would be secured for the animals and the farm would most rapidly become clean and more fully remunerative, especially if at the same time the cowsheds were rendered more healthy. There was difference of opinion, however, as to the means by which the cowsheds could be most economically and effectively adapted to their purpose, some of the speakers inclining to the provision of a greater amount of cubic space and others being inclined to rely upon improved ventilation. The provision or non-provision of compensation for the destroyed animals is obviously one which will greatly influence the rapidity of the steps taken to secure improvement, and Sir Richard Cooper stated his conviction that if the farmers were prepared to deal with the subject in a reasonable way and approached the Board of Agriculture with reasonable proposals they would be liberally met and compensation would be granted. If this conviction is well founded farmers should be strongly urged to take quick action, for the welfare of many thousands of children depends upon the rapidity with which the present conditions can be replaced by others of a more satisfactory character. Steps have already been taken by our health committee for the supply of pure milk to public institutions. 11 farms are now being dealt with and four are already completely free from the disease.

Suggested Diploma for Veterinary Surgeons.

It has been suggested that the University should grant diplomas to properly qualified veterinary surgeons on lines somewhat similar to those which have been adopted by some other provincial universities. The matter is still under the consideration of the University authorities and it has also been referred to the council of the Midland Counties Veterinary Medical Association. There is little doubt that, if it seems desirable to take action, the University will be prepared to take the necessary steps and to provide a proper curriculum.

The General Hospital.

At a recent meeting of the board of management the Earl of Plymouth was elected President of the General Hospital, an appointment which carries with it the presidency of the Triennial Musical Festival which takes place next October. At the same meeting it was announced that Mrs. Rickards had decided to give to the hospital £1200 for the purpose of dedicating a bed to the memory of the late Dr. Edwin Rickards, who was connected with, and gave very valuable services to, the hospital for a period of 36 years.

The Decline of the Measles Epidemic.

Between March 9th and 16th last we were at or near the highest point of the measles epidemic, from which the city and district have suffered severely, and the measles death-rate for the week totalled 44. From that period onward the decline commenced, and by April 6th the deaths from measles had fallen to 30 for the week. By April 20th the deaths had fall to 14 for the week. They were slightly more numerous during the next three weeks, but last week the decrease was rapid and only five deaths from measles were registered. We may congratulate ourselves, therefore, that we have passed through the worst of the epidemic and have entered on the comparatively free period which regularly follows the epidemic attacks.

May 18th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Electricity Out of Control.

IT is perhaps well that our boastings as to applied science, such as the harnessing of the giant electricity for our own use, should now and then be a little disturbed, if only to remind us that these powers are as dangerous as they are useful. A series of explosions which took place on May 8th show that our control is still imperfect. The tramway wires at the junction of two streets in Hulme fused and burst into flames, and a moment later a cable-box at the foot of one of the standards exploded and blue flames shot out from the standard. Without warning another violent explosion occurred—a section-box bursting and causing a panic amongst the crowd that had gathered, and the flames from this box threatened to spread to adjacent buildings. It was found almost immediately that there was an outbreak in a chapel in Jackson-street and an outbreak at the Bridgewater Canal offices. Happily there were no personal injuries or loss of life. More or less similar occurrences happen from time to time in Manchester, and no doubt in other large towns, showing that the necessity still exists for perfecting our control over the powers of this invaluable agent.

Overcrowding.

Under the direction of Dr. J. Niven a census has been recently taken of dwellings sublet in the city. In one district, out of 1112 inhabited houses, 205 were sublet into 655 tenements, 439 being of one room only. Another district showed 1966 houses with 249 sublet, while the death-rate closely follows the density of the population. In Ancoats and Hulme, where the population is over 100 to the acre, the death-rate is more than twice as high as at Wittington, Moston, and Clayton, where the population averages about 15 persons to the acre.

Milk.

Councillor Hailwood of Salford, speaking a few days ago as President of the National Federation of Dairymen and Cowkeepers' Association, spoke, as was natural, in praise of milk as the "cheapest and most nourishing" food that went into the house, and said very truly that if children had more milk in place of tea and coffee a great improvement would be seen in their health in a very short time. He gave some interesting figures as to the daily consumption of milk in large cities. Boston, U.S.A., heads the list with 20 ounces the daily consumption per head of the population. In Edinburgh and Glasgow the consumption is only half as much. In Liverpool and Sheffield it was seven ounces, but in Manchester and Salford only four ounces.—On Saturday, May 8th, a meeting was held at Chester of the North-Western centre of the Sanitary Inspectors' Association, when a paper was read on Municipalities and the Milk Problem, in which it was suggested that cowkeepers and milk-sellers should be licensed annually by local authorities. In the discussion that followed it was said that they could not expect a pure, wholesome, unadulterated milk-supply unless consumers were prepared to pay the cost, and one would be afraid that with greater stringency as to the provisions for securing a pure milk-supply the increased cost would tend to restrict consumption, especially in the poorer households. It would be safe to say that on the whole there are more care and cleanliness with regard to milking and the after-care of milk than was formerly the case, but we seldom hear of ill-effects from the taking of milk except in the cases where it has served as the carrier of infectious diseases, such as typhoid or scarlet fever. At the same time, the following true story shows how primitive in some cases the ideas of cleanliness are. A lady who employed her servant in milking her one cow, asked her one day if she had washed her hands before milking. The girl answered, "Oh no, I always wash them in the milk." Dr. J. R. Currie, the assistant medical officer of health of Chester, pointed out that the calves of tuberculous cattle were not affected with the disease, and by being fed on pure milk might be kept free from it.

May 18th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Treasury Committee and the Scottish Universities.

THIS committee, which the Government appointed some time ago to inquire into the needs of the Scottish Universities, has been in Edinburgh lately. The committee is presided over by Lord Elgin. The members visited the various medical teaching centres outside the University as well as the various departments in the University. Evidence has been taken from the Principal and others. University teaching, extra-mural teaching, and the teaching of women have all been inquired into. It is hoped that the result of the inquiries may be an increased grant to Edinburgh, for the University is much in need of money.

Appointment of Assistant Physician to Edinburgh Royal Infirmary.

The managers of the Edinburgh Royal Infirmary have appointed Dr. Edwin Matthew an assistant physician to the infirmary. Dr. Matthew is a graduate in arts of Aberdeen, and graduated in medicine at Edinburgh in 1897. He has for a number of years been an assistant physician to Leith Hospital. There were four other applicants.

The Illness of two Edinburgh Professors.

I regret to say that Professor J. Chiene has required to have his leave of absence prolonged on account of health. Professor D. J. Cunningham, who had gone to Egypt for rest and to regain strength, has returned without having received such benefit as his friends had hoped.

Edinburgh Post-Graduate Vacation Course in Medicine.

The syllabus of this course [illegible] all the necessary information, [illegible] may make up their time-table [illegible] will extend from Monday, August 30th, to Saturday, Sept. 25th, and will comprise (1) a general course, the composite fee for which will be 5 guineas for the four weeks, or 3 guineas for either the first or second fortnight; and (2) a surgical course, which will include classes on operative surgery, surgical anatomy, surgical pathology, and x rays applied to surgery. These classes will be exclusively reserved for those attending the surgical course, the composite fee for which will be 10 guineas. 3. Special classes on (*a*) bacteriology; (*b*) the blood; (*c*) the ear and throat; (*d*) gynæcology; (*e*) histological methods; (*f*) ophthalmology; (*g*) errors of refraction; and (*h*) x rays, the fee for each being 1 guinea. Each day throughout the course a special lecture will be delivered at five o'clock upon some subject of general medical or surgical interest. The University union will allow graduates to become temporary members for one month on payment of a fee of 5*s.* In the general course the subjects of medical anatomy, diseases of children, medical inspection of school-children, dermatology, diseases of the eye, infant feeding, infectious diseases, neurology, pathological anatomy, and tropical and venereal diseases find a place. In the past these post-graduate courses have been remarkably successful, and it is to be hoped that an equal if not greater success will follow this course.

Montrose Asylums Board and Parish Council Representation.

An important conference took place at Montrose on May 12th between members of the General Board of Lunacy and the managers of the Sunnyside Asylum as to the proposed change in the charter so as to admit popular representation by parish councils on the asylum management. Dr. J. Macpherson, Commissioner in Lunacy, said that the present board was composed of members drawn exclusively from the town of Montrose and the immediate neighbourhood, so that the parish councils of Forfarshire were compelled by law to send their patients to an institution in the management of which neither they nor any other representative body within the county had any direct voice. He thought that the present arrangement was a most unfortunate one, and that it ought to be terminated as speedily as possible. He outlined a scheme indicating an asylum committee, consisting in all of from 10 to 12 members. After a lengthy discussion the board of managers decided to meet specially to consider the question.

Aberdeen Royal Infirmary: Resignation of Dr. Angus Fraser.

At a meeting of the directors of the Aberdeen Royal Infirmary, held on May 12th, a letter was submitted from Dr. Angus Fraser intimating his resignation as an infirmary physician. The board resolved to record its high appreciation of the invaluable service rendered by Dr. Fraser to the hospital, and through it to the sick poor of the city of Aberdeen and large surrounding district, during the long period of 38 years in which he had occupied the position of a physician on the staff of the infirmary; its sense of the very high honour it had been to the infirmary to have had for so long on the roll of its officials the name of one so distinguished in his profession; and its grateful recognition of the other many and varied ways in which Dr. Fraser had, by his sagacious counsel and his unsurpassed knowledge of the history and working of the institution, contributed to its welfare and success. It was resolved to request Dr. Fraser's permission to continue his name on the staff of the infirmary as a consulting physician.

Sidlaw Sanatorium.

The executive of the Sidlaw Sanatorium at a meeting on May 11th acceded to a request by the Dundee town council to have the agreement for municipalisation cancelled on the understanding that the town council pay the expenses incurred in connexion with the negotiations. Mr. F. B. Sharp, the chairman, in a letter, expressed the opinion that the town council was under a moral obligation to make good to the sanatorium the permanent [illegible] sustained in consequence of its action in [illegible] for the acquisition of the sanatorium by the town and then asking them to cancel an honourable agreement. He also added that he was willing to make good any deficit (not exceeding £300) which might arise on the working of the sanatorium on its present lines from May 1st to Dec. 31st of this year.

Presentation to an Inverness Practitioner.

On May 11th Dr. G. W. England Kerr of Inverness was, on the occasion of his wedding, presented with a beautiful motor car and with a purse of sovereigns, while his wife also received a gift. Mr. James Ross, rector of the Mackenzie School, made the presentations on behalf of the subscribers, who numbered over 1800.

Keith Town Council and Pulmonary Tuberculosis.

At a meeting of the Keith town council, held on May 10th, it was decided to include pulmonary tuberculosis among notifiable diseases.

May 18th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Mortality in Irish Towns.

THE second week of the present month showed a more favourable death-rate record than any of its predecessors for a number of years. The rate fell from 23 per 1000 of the population in the previous week to 18·75. The average of the four preceding weeks had been 23·5. The highest death-rate of the second week of May which occurred in Ireland was that of Kilkenny, which reached 39·3. No deaths occurred in Clonmel, another favourable contrast from the 36 per 1000 of the week preceding. In three other town districts only was the rate below 10 per 1000: Drogheda (8·2), Sligo (4·75), and Galway (4). The death-rate of Queenstown reached 33. The total number of deaths which occurred in Dublin was 133, the number of births being 301. During the 18 weeks which ended with the second week of this month the average death-rate of Dublin was 26·5 per 1000—being 1·5 below the average for the corresponding periods of the past ten years. The deaths from whooping-cough fell to four, as against 13 of the previous week. Those from tuberculous disease fell from 33 to 29, which included 23 from pulmonary consumption. There were no fresh cases of whooping-cough reported in the city area, but 14 cases were reported from the Pembroke township. Four cases of scarlet fever occurred in Rathmines. There were seven cases of diphtheria reported in the city and one in Rathmines; the other townships remained free.

The Medical Officer of Health of Belfast.

In reply to a letter of the public health committee asking the Local Government Board to reconsider its decision regarding the proposal of the Belfast Corporation to increase the salary of the medical officer of health, the Local Government Board has written that it was unable to vary its decision and that it saw no reason for departing in this case from its usual practice of requiring a period of five years' service before sanctioning increase in an officer's salary. The health committee has expressed its regret at this decision which is final.

Ballykelly Dispensary.

Dr. J. R. Ross has just been obliged, owing to the state of his health and his age (69), to tender his resignation of the office of medical officer of Ballykelly Dispensary, a position which he has held for 42 years. At a meeting of the Limavady board of guardians held on May 17th the resignation was accepted and a resolution was unanimously passed acknowledging Dr. Ross's faithful services, particularly to the poor.

The Queen's University Commission.

This Commission began further sittings on May 17th at Queen's College, Belfast. The selection of the new professors and lecturers was considered; and deputations were received from the Technical Institute in reference to coördinating university and technical education, and from the other institutions in regard to recognition as a teaching institution.

May 18th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Isotonic Sugar Solutions for Injection.

AT a recent meeting of the French Society of Military Medicine M. J. Labougle and M. Boutin communicated a paper in which they called to mind the undesirable results which sometimes occur from injections of saline solutions, even when they were isotonic, and they proposed the replacement of the sodium chloride by sugar. A solution composed of 10·30 grammes of sugar in distilled water is, they state, perfectly isotonic, is cryoscopic in the same degree as the blood serum, is non-toxic, and has been employed with the greatest success in various cases of serious illness, such as typhoid fever, malaria, and septicæmia. These sugar injections have the same good effects as those of artificial serum without giving rise to the disagreeable effects which the latter sometimes produce, and they can be used without risk even in patients suffering from acute albuminuria. Moreover, they produce abundant diuresis. The only contra-indication to their use is diabetes.

Ophthalmia in the Newly Born.

At a meeting of the Academy of Medicine held on May 4th M. Motais read a paper in which he advocated the use of protargol instead of nitrate of silver in the treatment of ophthalmia of the new-born infant. The eyelids are everted and gently washed with a solution of potassium permanganate of a strength of 1 in 400. Then two drops of a solution of protargol, one gramme to five grammes of distilled water, are dropped into the eye every three hours, day and night, for two or three days, until the secretion becomes less in quantity and of thin consistency. When this happens the instillation is only made every six hours. After five or six days of this treatment there is hardly any secretion and the swelling of the lids has practically disappeared. The treatment is continued with a solution of half the strength until complete cure is obtained. If ulceration of the cornea has commenced before the treatment is begun the protargol arrests the destructive process, and cicatrisation of the ulcer commences almost at once. Midwives are at present authorised to use preventive treatment by instilling into the eyes of a new-born child a solution of nitrate of silver of a strength of 2 per cent., and it is to be feared that as they have this solution at their disposal they will continue to use it. M. Motais considers that it would be more prudent to allow them to use nothing but a one in five solution of protargol, which is quite harmless although very active.

The Prevention of Blindness in Workers.

At the same meeting of the same society M. Motais discussed a most interesting and important question—namely, the measures to be taken for preserving the sight in workers who by their tasks are exposed to the risk of losing it He said that great importance was rightly attached to ocular hygiene in schools, but that no one took any heed of ocular hygiene in workshops, offices, and shops. The children in secondary schools throughout France numbered about 250,000. The number of workers of both sexes, such as dressmakers and embroiderers especially, and in other trades, those who are exposed to dust, to either too intense or not enough light, to injuries by pieces of steel, or stone, or coal, exceeds 3,000,000. Every year thousands of dressmakers, clerks, cashiers, and accountants lose their sight, not so much from excess of work as from defective lighting and a deplorably faulty position during their work. Each year, too, thousands of workers become blind from irritating dust, fragments of iron, coal, glass, wood, or stone shot into the cornea, or from exposure to intense lights. To remedy this state of things M. Motais proposed the appointment of an inspector of factories who should look after the cleanliness of the windows, which are too often encumbered with dust or spiders' webs or overshadowed by trees. Arrangements for day lighting should be based on those at present in use in schools; for artificial lighting a special committee should be appointed. The use of protective spectacles should be made obligatory on all workers whose eyes are exposed to the possible impact of foreign bodies, and advice should be given to workers as to the importance of there being good light for their work.

Sero-therapy in Diphtheritic Paralysis.

At a meeting of the Hospitals Medical Society held on April 30th M. Mery, M. Weill-Hallé, and M. Parturier recommended the following method of administration of anti-diphtheritic serum for the prevention and cure of diphtheritic paralysis. The serum must be injected subcuta
by day both during and after the affection of
without waiting for the first manifestations of
Big doses must be used, from 40 to 60 cubic cei
day during the acute period, and after this from 10 to 20 cubic centimetres every two days. Also, according to M. Hutinel's advice, 10 centigrammes of powdered suprarenal body must be given every day. M. Netter has also used large doses of serum together with adrenalin. The *combination of these two therapeutic measures will cure a* certain number of severe diphtherias without complications. But as *grave cases of diphtheria do not always declare them*selves as such at the beginning of the disease the intensive treatment should be begun and continued in every case of diphtheria. The large doses of serum injected do not *appear to bring about any anaphylaxis or any toxic effects,* and M. Sicard stated that in one case of diphtheritic paralysis he had injected over 600 cubic centimetres of serum without any ill-effect.

May 18th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

A Novelty in Open-air Treatment.

ON *the recommendation of several medical men in Vienna* the municipality last year opened an institution called here by the popular name of "Gauschäufel." It is simply an open-air sanatorium for healthy persons. The old idea that sunlight, air, and water are the main restoratives at our disposal was long ago taken up by a non-medical philanthropist, *who opened an establishment of the most primitive* kind on the banks of the Danube on the outskirts of Vienna. The results obtained by him have prompted the municipality to enlarge the establishment and conduct it on modern principles. An immense area covered with fine sand, deposited from the Danube, which used to flow there in ancient times, a long river bank with shallow, rapidly-flowing, cold water, and the absence of any shade-giving trees are the three principal health-giving factors relied on. Special care has been taken to enable schools to make use of the facilities offered there; 4000 persons can *undress at the same time, and free tickets* have been granted to schools and workshops, so that on some days last summer 10,000 persons were seen there, going about in the open air nearly naked. It must be admitted that the institution has done much to convince the lower classes of the good influence of a natural mode of life. No less than 200,000 persons have availed themselves of the opportunity offered them and for this year an increased area has been thrown open for the "air cure." There is a special medical attendant present, for cases of sunstroke have been noticed now and then, but, generally speaking, no serious mishap has occurred. As the inhabitants of Vienna, unlike those of London, have no sea coast within easy reach, this substitute has been welcomed by the population.

The Prevention of Venereal Disease among Students.

The increase of venereal disease amongst the better classes of the population, as well as the fact that young students fresh from school or country are very liable to succumb to sexual temptation, has prompted the senates of the universities not *only* in Austria but also in *Germany* to issue a printed warning to all students on matriculation, cautioning them against the dangers of venereal disease. In this leaflet the widely-diffused idea that sexual intercourse is absolutely necessary for the developing body is refuted, and the antiquated notion that "a little gonorrhœa" is nothing to be ashamed of is shown to be a serious and dangerous fallacy. *The students are reminded that such superstitions result in* terrible suffering on the part of innocent wives infected by their husbands, for gonorrhœa may completely undermine a woman's health, causing sterility and domestic unhappiness. It is added that in more than 50 per cent. of sterile marriages the first link in the chain of events has been gonorrhœa contracted by the husband. After recommending an immediate visit to a competent practitioner when once disease has been acquired and *cautioning against* secret remedies and quacks who make great promises, the leaflet goes on to say that sexual intercourse whilst a man is
It is signed by
Gruber, Dr. von
ppe, Dr. Neisser,
*ts to obtain com*petent help and advice in cases of disease special friendly societies (*Krankencassen*) have been formed for students of all universities and all branches in Austria The medical men attached to them have mostly been at one time members of a *Cassa* themselves, and the students in this way have at a very *small cost sufficient medical care and attention. It must be* mentioned that in this country numerous students come from poor families, so that the expense of treatment would be a very heavy burden to them but for these *Krankencassen.*

Horse Serum in the Treatment of Hæmophilia.

At a recent meeting of the Gesellschaft der Aerzte Dr. Mautner showed a boy, four and a half years old, who was suffering from hæmophilia and had once already been in hospital for dangerous hæmorrhage which was controlled with difficulty. This time the child was admitted in a nearly moribund condition, three days after the extraction of a lower molar tooth. He had been losing blood continually and the styptics applied locally were absolutely useless. Dr. Mautner thereupon injected 20 cubic centimetres of normal horse serum, acting on a suggestion made by Dr. Wirth and mentioned by me in THE LANCET of Feb. 13th, p. 508. *After* a few minutes the oozing became less and the bleeding soon stopped but reappeared the next day. Another injection of the same strength had a permanent effect. Whilst a blood count on admission showed only 1,700,000 erythrocytes per cubic millimetre their number rose to 2,700,000 five *days after the first injection and the general condition* of the patient improved rapidly. A remarkable feature of this case was an atypical serum disease appearing 28 days after injection, manifesting itself by a rise of temperature, swelling of the glands, pain in the joints, and leucopenia (4000 leucocytes per cubic millimetre). There also appeared at the same time a general erythema of the nature of erythema multiforme. A similar belated occurrence of a serum exanthem has been noticed several times in very debilitated persons. A point worth mentioning was the fact that the experiments on anaphylaxis showed that in addition to other changes the injection of serum caused also a loss of coagulability of the blood after two or three weeks. This, *however, was only in certain animals* which had received large amounts of serum intravenously, and especially in dogs. In human patients the amount of serum used was relatively much smaller and its absorption was much slower, otherwise there might be reason to fear that hæmophilic patients treated with horse serum would be in great danger if fresh bleeding should occur from 20 to 25 days after the injection. *That this did not happen has been* proved already.

May 17th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Public Executions.

MARTIAL law and court-martial have commenced the work of retribution with a stern and resolute hand. The instigators and the
soldiers and officers, civilians an
executed on open places of the
crowded and exposed, such as the Stamboul end of the Galata bridge, the wide space near Saint-Sophia, and the thoroughfare of the mosque of Sultan Bayezid. The executed men were exposed on their gibbets to the crowds for several hours, and with *feverish eagerness* great masses of people streamed out to see them suffer. The scenes were repulsive in the highest degree. A female patient of mine who saw the hangings was so affected by the horrible sight that she is bedridden at present in a febrile delirious condition and probably many more share her punishment for their morbid curiosity.

The Massacres at Adana.

The massacres at Adana and other places in the interior of Asia Minor have been, judging from the latest reports received at the American Bible House in Stamboul, of a most extensive and dreadful character. The Armenian Committee "Dashnaksutiun," which organised in Constantinople a very efficient medical staff to attend to the wounded in different hospitals of the city, has now sent to Adana a medical mission for the same purpose, consisting of three doctors, four assistants, and three nurses. The American missions have suffered greatly from the last reactionary disturbances in the interior. Several missionaries, medical and others, have been massacred and their houses destroyed by fire. The Government is sending a sufficient number of regiments to put an end to the reckless doings of the reactionaries and to punish the perpetrators. It seems that the latest massacres at Erzerum have been just as extensive and terrible as at Adana. According to the official report of Mustafa Sihni Pasha, the Vali (Governor) of Adana estimates that in the town itself, 345 Mahomedans were killed and 200 wounded. Among the Armenians the number of wounded amounted to 250 and of killed to 525. In the surroundings of the city 625 Moslems were killed and 40 wounded. The number of killed Armenians there was 250 and of wounded 30. According to the same official statement, in the whole vilayet of Adana 1924 Mahomedans and 1455 Armenians have been killed, and 533 of the former and 382 of the latter wounded. Out of a total of 250,000 people inhabiting the vilayet only 48,000 are Armenians. The court-martial has determined to verify thoroughly these statements of the Vali.

The New Sultan.

The new Padishah Mehmed V. was girt with the sword of Osman on the 10th of this month in the sacred mosque of Eyoub on the right shores of the Golden Horn, and thereby became the true and real "Shadow of Allah on Earth." The ceremony went off quite smoothly in splendid weather and with great Oriental pomp and splendour. The new Sultan seems to have become a very popular personality with his people, who admire his simplicity of manner and great readiness to mix among the population of the metropolis in an unrestrained manner. The Sultan has appointed a Greek doctor, Evlambios Effendi, to be his body-physician.

Some Statistics of Tuberculosis in Children.

In a clinical study on tuberculosis of children in Constantinople Dr. J. B. Violi gives some interesting statistics of his "Hôpital International des Enfants," of which he is the originator and director. From July 5th, 1895, till Dec. 31st, 1908, 39,749 sick children received medical and surgical treatment in this institution. Of this number, 475 were entered as suffering from tuberculosis of various forms. 175 had tuberculous peritonitis. In 25 of these cases Dr. Violi traced the origin of the disease to a contagion from father, mother, or some other person in the patient's immediate surroundings. The same observation was made in 22 cases out of 185 children who were afflicted with either tuberculous osteitis or periostitis; in 19 cases out of 69 of tuberculous meningitis; in three out of 25 with tuberculous glands; and in 11 out of 23 cases of pulmonary tuberculosis. Dr. Violi says that in view of these figures he should consider that 5 per cent. of the tuberculous patients in his hospital had the disease transmitted to them by persons with whom they lived in close contact. The following sequence of cases which occurred in Dr. Violi's private practice is of special interest in the same connexion. In July, 1906, he was called to attend, in a Turkish family, a girl, aged 13 years, who was suffering from pulmonary tuberculosis and who took care of her sister 18 months old. The advice of the medical man to keep the two children separate was not carried out. Three months later the babe fell ill with tuberculous meningitis. A lumbar puncture and microscopic examination revealed Koch's bacilli. The child died in 45 days and the girl who attended her succumbed three months after. The mother, who always was in close contact with these two children, continued to nurse them during her pregnancy. She gave birth to a very healthy boy whom she suckled herself in spite of the fact that she was suffering from a very severe cough, and against the urgent advice of her medical attendant to get a wet-nurse for the baby. The latter became ill in his fourth month of life with an influenzal attack which developed into broncho-pneumonia, death occurring 35 days after. Koch's bacilli had been found in the sputum. By this time the mother was suffering from greatly advanced pulmonary tuberculosis, and falling again pregnant gave birth to a healthy girl but died a few days afterwards. Thus, in the course of two years four persons succumbed in this unhappy family to tuberculosis transmitted from one member to the other.

Mortality Returns for April.

The number of deaths during the month of April amounted to 1907. Of this number, 147 died from tuberculosis, which seems to be an unusually large proportion. 96 cases succumbed to acute diseases of the respiratory organs, 32 to typhoid fever, nine to measles, eight to cerebro-spinal meningitis, and nine to small-pox. These figures, as well as the above statistics, are taken from *La Pédiatrie en Turquie.*

May 14th

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

A Memorial Research Fund to the Late Dr. Bull.

THE committee appointed to decide upon a fitting memorial to Dr. William T. Bull has reported in favour of the creation of a large fund ($500,000) for conducting original research under the direction of the College of Physicians and Surgeons, a department of Columbia University. It is not to be devoted to the erection of buildings and laboratories, but to the payment of adequate salaries. The committee states that the purpose of this memorial foundation is to unite to the great centres of practical surgery in New York a department where organised study of such work can be carried on from its various standpoints of pathology, bacteriology, physiology, and anatomy, and where facilities for necessary experimental work exist, and where the recording and publishing of results and findings may be effected. It is peculiarly fitting that the College of Physicians and Surgeons should be intrusted with this memorial, as Dr. Bull was its professor of surgery, and a great part of his most active years was devoted to its service. The College also furnishes the Department of Surgery with its affiliated departments, and in addition the laboratories of pure science of the University. In possessing access to these laboratories, presided over by men of recognised ability, with clinical facilities afforded by the hospitals, this foundation will have unsurpassed advantages for research work.

The Result of Trials of the Insane by Juries.

Dr. Robert W. Lamb, superintendent of the State Hospital for Insane at Matteawan, New York, has followed the history of 34 inmates of that institution who have been discharged as sound in mind by juries. 14 of this number returned eventually, either to prison or to the asylum; eight became troublesome to their families; three were unable to earn a livelihood; six disappeared; two committed suicide; and only a single one of the 34 was able to support himself partially after his discharge. Dr. Lamb states that in all cases referred to which have been submitted to juries for verdict the finding has been uniformly in favour of the insane person. He proposes as a remedy for this method of discharging insane criminals that the release shall require a certificate of two competent medical examiners and the approval of a judge of record. He very truly says it is a mistaken kindness to the individual, as well as a grave injustice to society, to turn adrift an irresponsible derelict, incapable of correct conduct.

Economy in Hospital Management by Cooperation.

The representatives of 45 hospitals in Greater New York held a conference recently to consider a plan of coöperation in the purchase of supplies. The proposed method of procedure was presented by a former purchasing agent of two of the largest railroads in the country. The plan consists of establishing a bureau with its officers which should be devoted to the purchase and distribution, on requisition, to the several hospitals of the usual supplies. It was shown that the method of wholesale purchase in the open market which such a central purchasing agency would adopt would diminish the cost to each hospital, compared with the present method, one-third to one-half. The maintenance of this agency was estimated to cost $24,000, and the saving annually to the hospitals would be $161,000. The plan was approved by the conference and the approval of the boards of management of the hospitals represented was strongly recommended.

The Increase of Psychopathic Hospitals.

One of the most striking evidences of progress in the scientific treatment of the insane in this country is the rapid increase of psychopathic hospitals. In these institutions those admitted are placed under the immediate observation and treatment of physicians skilled and experienced in nervous diseases, and as most of the patients are "suspects" rather than confirmed cases of insanity, large numbers recover without being certified as insane, as formerly, when thousands of "border-line" patients were rushed directly from their homes to the asylums. The reports of the psychopathic hospitals in this State, New York, show an astonishing number of discharged patients compared with the total received. The State of Illinois has established a psychopathic hospital in connexion with each asylum, on which large sums of money have been expended for construction and modern equipment. Other States are building or agitating the question of the necessity of such hospitals, and the future outlook indicates a great advance in the scientific treatment of the insane and the rescue of thousands from commitment to the old-time asylum.

May 10th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Hospitals and Snake-bite.

WHILE the recent Bombay Medical Congress was discussing remedies for snake-bite, the Madras Government was considering measures for bringing them within easier reach of the people, and a definite scheme with this object has just been approved. At first it was intended to prosecute the investigations of snake venoms and their antidotes at the Coonoor and Guindy Medical Institutes, but this proposal has been abandoned for lack of adequate equipment and staff. The second part of the scheme, however, will be carried out, and it provides that a stock of antivenene shall be kept in all hospitals in the Presidency and its availability advertised by every means possible, even down to the beating of tom-toms through the villages. The Madras proposals leave on one side, apparently, the Lauder Brunton treatment for snake-bite with lancet and permanganate of potash, but this treatment is so difficult of effective application in many cases that it can as yet hardly be recommended as trustworthy. The antivenene supplied will be the polyvalent variety recommended by Lamb and based on the theory that the six common terrestrial poisonous snakes of India can be roughly divided into two classes and the effects of all their bites efficaciously treated by the one antivenene. The great difficulty will be to get the people to take advantage of the facilities for treatment, which must, of course, be applied very quickly after the injury has been inflicted. The Madras Government is doing all that is possible to meet both these points, and the progress of its experiment will be watched with great interest in other parts of India, where, if the measure is successful, it might also be adopted.

The Calcutta Death-rate.

The total number of deaths registered in Calcutta during the week ending March 27th, 1909, was 1110, against 881 and 865 in the two preceding weeks, and higher than the corresponding week of last year by 232. There were 143 deaths from cholera, against 101 and 98 in the two preceding weeks; the number is higher than the average of the past quinquennium by 41. There were 61 deaths from plague, against 77 and 80 in the two preceding weeks. There were 446 deaths from small-pox during the week, against 305 in the previous week. There were 24 deaths from tetanus, against 19 in the previous week. The mortality from fevers and bowel complaints amounted to 162 and 24 respectively, against 76 and 45 in the preceding week. The general death-rate of the week was 68·0 per 1000 per annum, against 58·8, the mean of the last five years. The death-rate calculated on the estimated population was 58·4 per 1000.

Vaccination Fees.

Under the Bengal Vaccination Act natives who require the services of a public vaccinator (hospital assistant) at their houses have to pay 4 annas per head. Some of the middle-class Bengalis are now agitating to have this fee either abolished or reduced to a nominal fee of 1 anna, as they say that in large families vaccination involves an expenditure of more than some of them can bear. Many of the middle-class native women do not like to attend the local dispensary for vaccination, but prefer to be vaccinated in their own homes. The result of the present 4 anna fee, they state, is that they only get vaccinated once in their lives, revaccination being rare. This is a serious matter, as small-pox is practically endemic in parts of India, and revaccination every five years is desirable for those living in infected localities.

Plague in the Punjab.

Although plague is reported from a considerable number of districts in the Punjab, there is only one in which the mortality is really serious. This is the Ferozepur district, where between 400 and 500 deaths are occurring weekly, or more than one-fourth of the total in the province. Ludhiana, Lahore, and Montgomery districts and Patiala State each return about 100 deaths weekly. The mortality in the Punjab for the week ending March 20th was 1316, and since then there has been a slight rise, but the epidemic is happily much less severe than of late years. Its effect, therefore, upon the labour market should not be felt to any great extent, which is a fortunate circumstance, as a splendid harvest has to be reaped within the next few weeks.

Plague in Bombay.

The report of the Bombay health officer for the past quarter states that the mortality was lower by 1352 than in the corresponding quarter last year, and the difference in the figures between now and the mean of the corresponding quarters since plague began is very considerable. The report states that the destruction of rats, inoculation, and other preventive measures have been vigorously pressed. The large scale on which the rat campaign has been organised is shown by the fact that 100,000 rats were sent to Parel Laboratory for examination during the past quarter. Inoculation, however, does not become any more popular, and a smaller number of inoculations is reported than was performed in the corresponding quarter of last year. The report also shows that the port health officer and President of the Haj Committee have coöperated with the executive health officer in checking the spread of infection from small-pox brought by pilgrim ships from Jeddah.

Plague in the Central Provinces.

The Chief Commissioner of the Central Provinces in a recent communication to the Government of India drew special attention to those places in which plague persists, with the object of its extirpation and so preventing a spread from such places. The Inspector-General of Civil Hospitals is of opinion that unless endemic foci exist in Berar it must be held that the Central Provinces and Berar are annually infected from the Khandesh district of the Bombay Presidency, where the disease seems to linger practically throughout the year. Almost all the officers consulted agree in the opinion that plague is best held at a distance by (1) sanitary improvement; (2) systematic and continuous rat destruction; (3) prompt evacuation on the appearance of rat mortality; and (4) inoculation. The Inspector-General of Civil Hospitals holds the same opinion, and he recommends that measures (2) and (4) should be simultaneously practised. These measures are already put into practice and are receiving increasing attention, both by the Government and by local bodies. The special plague officer, Captain J. Morrison, though not able to fix precisely on any localities as foci, puts forward the unusual suggestion that in the towns of Akola and Khamgaon, the latter in the Buldana district of Berar, an examination of musk rats should be made during the period of abatement of human plague in order that the presence of plague infection among the rodents may be searched for and detected. This suggestion appears to contain a good practical means of arriving at some satisfactory data, for if it can be shown that during the period of abatement of human plague the rats caught in such places as are suspected of being distributing foci are suffering from plague or have on them plague-infected fleas, and at the same time rats caught in non-suspected places are free, the Chief Commissioner thinks that a great stride forward will have been taken, and the administration may probably be in a position to concentrate its plan of campaign upon these foci of infection. The Inspector-General of Civil Hospitals recommends that this investigation should be carried out at the following localities in Berar: Amraoti, Badnera, Akola, Akot, Khamgaon, and Shegaon. The Chief Commissioner will direct that officer to take measures accordingly during the next plague abatement period.

Plague Returns.

These returns for the week ending April 10th show 4419 deaths, against 4684 in the week preceding. Bombay Presidency reports 731, Bengal 288, the United Provinces 687, the Punjab 2044, Burma 82, and the Central Provinces 81. The Rajputana returns show 471 deaths, but these are for a fortnight.

The Pasteur Institute of Southern India.

This institute is making steady progress. The second annual report shows that 340 cases were treated in the year 1908–09, as against 180 in the 11 months preceding. In these 340 cases there were only two failures, though two cases which developed hydrophobia during treatment are not included in the statistics. Of the total number of patients 51 were Europeans, 39 were Eurasians, and 253 were Asiatics. The report states that the institute buildings are still unfinished and cannot yet be taken over by the committee. The year opened with a balance of about 3000 rupees and a large debt due to the Madras Government, but the Government wrote off their outstanding claims against the institute, and the year closed with a credit balance of Rs. 94.3. In addition to the ordinary expenditure of the institute a sum of about Rs. 14,000 is required for additions to the plant and extension of the quarters provided for indigent patients.

April 27th.

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At a meeting of the Comitia of the Royal College of Physicians on April 29th and of the Council of the Royal College of Surgeons on May 13th Diplomas of L.R.C.P. and M.R.C.S. were respectively conferred upon the following candidates, who have passed the Final Examination in Medicine, Surgery, and Midwifery of the Examining Board in England and have complied with the by-laws:—

Adolphe Abrahams, [illegible] versity and St. Bartholomew's Ho[illegible] Leach Allott, Sheffield and Leeds [illegible] ed Ansari, B.A., M.B., Ch.B. Edin., [illegible] aring Cross Hospital; [illegible] ntab., Cambridge Uni[illegible] hn Lee Atkinson, Guy's [illegible] n Hospital; Bertram [illegible] tal; †Mark Bates, B.A. [illegible] rtholomew's Hospital; [illegible] mbay, Bombay Univer[illegible] mew's Hospital; Trevor [illegible] pital; William Francis Bowring, B.A. Cantab., [illegible] ospital; Eldred Curwen [illegible] omas [illegible] College, Cardiff, and St. Bartholomew's Hospital; Malcolm Donaldson, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Archibald Wallace Duncan, St. Mary's Hospital; George Hunter Dunn, M.A. Cantab., Cambridge University, King's College and St. Mary's Hospitals; Leslie Wilson Evans, Durham University and Guy's Hospital; Thomas Evans, Guy's Hospital; Philip Charles Field, University College, Bristol, and Guy's Hospital; Howell Woodwell Gabe, Middlesex Hospital; Edward Brown Garrard, Birmingham University; Paul Knighton Gilroy, B.A. Ca[illegible] St. George's Hospital; [illegible] n., Oxford University an[illegible] don Greaves, Queen's Univers[illegible] Harry Spencer Hall, B.A. Cantab., [illegible] David John Harries, [illegible] University College H[illegible] Zealand, New Zealand [illegible] Hudson, Manchester [illegible] Hughes, Guy's Hospita[illegible] Cambridge University [illegible] Patrick Hutchinson, [illegible] Michigan University [illegible] Percival Jones, Uni[illegible] College Hospital; [illegible] tholomew's Hospital; [illegible] Bombay University and St. Bartholomew's Hospital; Henry Goff Kilner, Middlesex Hospital; Septimus Joseph Lee, Middlesex Hospital; *Arthur Salusbury MacNalty, [illegible] University College Hospital; Reginald [illegible] B.A. Cantab., Cambridge University [illegible] Hospital; James Knowles Milligan, [illegible] Howard Edward Hall Mitchell, Guy's Hospital; Edwin Bertram Morley, University College and [illegible] L.D.S. Eng., University College, Bristol; Ralph Daniel O'Leary, M.B., Ch.B. Melb., Melbourne University and Middlesex Hospital; Douglas George Spring Rice Oxley, London Hospital; George Frank Page, St. Bartholomew's Hospital; Robin Pearse, St. Bartholomew's Hospital; Lionel Banks Perry, Cambridge University and St. Thomas's Hospital; Roger Aiken Rankine, Guy's Hospital; Alexander Armstrong Rees, M.B., Ch.B. Liverp., Liverpool University; Edward Douglas Whitehead Reid, B.A. Cantab., Cambridge University and St. Bartholomew's [illegible] Bombay University, King's College and University College Hospitals; Norman Guy Hawtrey Salmon, Charing Cross Hospital; August Carl Schulenburg, M.[illegible] versity and Guy's Hospital; C[illegible] Cambridge University and [illegible] Shenstone, B.A., L.M.[illegible] ia University; Samuel Shephe[illegible] Gordon Smith, St. Bartholomew[illegible] Smith, Manchester University [illegible] Ernest Richard Stone, B.A. Cantab., Cambridge University and Guy's Hospital; Thomas William Ramsden Strode, Charing Cross Hospital; William Francis Sutcliffe, St. Thomas's and Middlesex Hospitals; [illegible]; Henry Ashbou[illegible] ity and King's [illegible] b., Cambridge [illegible] nwright, Middle[illegible] College, Bristol, [illegible] d Ward, Westm[illegible] ng Cross Hospita[illegible] Thomas's Hospita[illegible] utta University and St. Bartholomew's Hospital; Robert Noel Woodsend, University College Hospital; and Thomas Strethill Wright, M.A. Oxon., Oxford University and St. Thomas's Hospital.

* M.R.C.S. granted on April 1st last.
† L.R.C.P. granted on May 13th last.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the First Professional Examination in Anatomy and Physiology for the Diploma of Fellow held on May 6th, 7th, 11th, 12th, 13th, and 14th, 113 candidates presented themselves, of whom 40 per cent. were approved and 60 per cent. were referred. The following are the names of the successful candidates:—

James Wilmot Adams, B.A. Cantab., L.R.C.P., M.R.C.S., Cambridge University and St. Bartholomew's Hospital; Andrew Blair Aitken, M.B., Ch.B. Glasgow, Glasgow University and London Hospital; Emmanuel Caeton Alles, L.M. & S. Ceylon, Ceylon Medical College and King's College; Frederick William Aris, M.D., C.M. Bishop's College, Montreal, L.R.C.P., M.R.C.S., Montreal and London Hospital; Henry Leo Barniville, B.A. Royal University of Ireland, Dublin University; Richard Henry Barter, Queen's College, Cork; Henry Cuthbert Bazett, B.A. Oxon., Oxford University and St. Thomas's Hospital; James Leatham Birley, B.A. Oxon., Oxford University and St. Thomas's Hospital; Walter Rowley Bristow, M.B., B.S. Lond., L.R.C.P., M.R.C.S., St. Thomas's Hospital; William Archibald Campbell, M.B., Ch.B. Glasg., L.R.C.P., M.R.C.S., Glasgow University and London Hospital; Anandrai Keshavlal Dalal, L.M. & S. Bombay, Bombay University and King's College; David Leighton Davies, M.D., M.S. Lond., L.R.C.P., M.R.C.S., Cardiff and University College Hospital; George Ernest Elkington, Birmingham University; John Henry Farbstein, M.B., B.S. Lond., L.R.C.P., M.R.C.S., University College; Thomas Gerald Fenton, L.R.C.P., M.R.C.S., St. Thomas's Hospital and King's College; George Ernest Oswald Fen[illegible] L.R.C.P., M.R.C.S., [illegible] versity and University [illegible] B.S. London, Sheffield [illegible] A., Royal University of [illegible] dining, Guy's Hospital; [illegible] Oxford University and [illegible] gh, L.R.C.P., M.R.C.S., [illegible] ott Henley, M.B., B.C. [illegible] n, M.B., [illegible]

Durham University; James Barlow Macalpine, L.R.C.P., M.R.C.S.,

Bartholomew's Hospital.

At an *ordinary meeting* of the Council of the College on May 13th Licences to practise Dental Surgery were conferred upon 30 gentlemen who have passed the necessary examinations and have complied with the by-laws, viz.:—

Herbert George Balls, Middlesex and National Dental Hospitals.

Stuart, Guy's
Royal Dental
University;
Royal Dental
versity; and
University,

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following candidates have passed the Primary Dental Examination:—

D. J. Doolin, A. R. Mallet, and R. K. Mulderry.

The following have passed the Final Examination and have been admitted Licentiates in Dental Surgery:—

R. S. H. Drabble, H. A. E. Noble, and L. F. Schlegel.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Alfred Neumann, Director of the Surgical Department of the Friedrichshain Hospital, has been granted the title of Professor.—*Bonn:* Dr. Reichenbach of Breslau has been appointed Extraordinary Professor of Hygiene, in succession to Dr. Kruse, who goes to Königsberg.—*Budapest:* Dr. Paul Kuzmik, *primarius* of the Surgical Department of St. John's Hospital, has been promoted to the chair of Surgical Operations.—*Clausenburg:* Dr. Josef Imre has been appointed to the chair of Ophthalmology.—*Giessen:* Dr. Johann Georg Mönckeberg, *privat-docent* of General Pathology and Pathological Anatomy, has been promoted to an Extraordinary Professorship.—*Halle:* Dr. Fritzel has been appointed to the charge of the Aural Polyclinic, in succession to Dr. Schwartze.—*Munich:* Dr. Robert Rössle has been appointed Prosector of the University Pathological Institute.—*Tubingen:* Dr. Bruno Fleischer, *privat-docent* of Ophthalmology, has been promoted to an Extraordinary Professorship.

SCHOOL CANTEENS.—The report of the canteen sub-committee of the Hastings education authority on the working of the Education (Provision of Meals) Act, 1906, has been issued. The committee has no reason to be dissatisfied with its work. From Nov. 2nd, 1908, to March 31st, 1909, no fewer than 60,706 meals were provided. The total cost of food was £367 4*s.* 1*d.*, and the cost per meal (food only) 1·45*d.* The meals provided were breakfasts, and it was found that the children so fed were far more eager for their studies than heretofore. Every assistance was given by numerous voluntary agencies, and care was taken to prevent

xation of parental duty and responsibility. As the

harge to the rates was the cost of the food only it

very well be said that the meals were a noticeable

to the rate.

's HOSPITAL MEDICAL SCHOOL (UNIVERSITY

NDON).—Mr. R. A. Chisholm has been appointed

Research Student for research in connexion with

ect of cancer.

HAM UNIVERSITY MEDICAL GRADUATES'

TION.— of this asso-

will tak The meeting

held at W., and the

dinner at the Café Royal, Regent-street, at 7.30.

THE May dinner of the Edinburgh University Club of London will take place at the Criterion Restaurant on Friday, May 28th, at 7.30 o'clock, Mr. S. H. Butcher, M.P., being in the chair. The Lord Advocate, Sir Henry Craik, M.P., and Mr. Barry Pain, are amongst the guests who have accepted invitations to be present.

WEST LONDON POST-GRADUATE COLLEGE.—The annual dinner of the Post-Graduate College and Past and Present West London Hospital will be held on Wednesday, June 16th, at the Trocadéro Restaurant, Piccadilly-circus, W., at 7 for 7.30 P.M. The chair will be taken by Dr. P. S. Abraham. The price of the dinner ticket is 7*s.* 6*d.* (exclusive of wine) and all past and present members of the hospital are invited to attend, and tickets may be obtained upon applying to the Dean of the College, Mr. L. A. Bidwell.

MIDWIVES ACT COMMITTEE.—The twelfth meeting of the Departmental Committee appointed by the Lord President of the Council to consider the working of the Midwives Act, 1902, was held at the Privy Council Office on May 12th, Mr. Almeric W. FitzRoy, the clerk of the Council, being in the chair. The following witnesses attended: Mr. Sydney Stephenson, F.R.C.S. Edin.; Dr. Sidney Barwise, county medical officer of health of Derbyshire, on behalf of the public health committee of the Derbyshire county council and on behalf of the Midland Medical Union; and Mr. Walter Schröder, deputy coroner, County of London Central District. The thirteenth meeting of the Committee was held at the Privy Council Office on May 19th. The following witnesses attended: Dr. A. Rivers-Willson, Mr. E. Parker Young, and Mr. J. Theodore Dodd.

THE FRENCH HOSPITAL: THE ANNUAL DINNER.—The annual dinner of the French Hospital was held at the Hotel Cecil on May 15th. His Excellency the French Ambassador presided, and was supported by the Spanish Ambassador and many other members of the "Corps Diplomatique." The Lord Mayor and Sheriffs were also present, and about 300 subscribers. Among the members of the staff of the hospital were Dr. George Ogilvie, Mr. Edmund Owen, Dr. L. Vintras, and Dr. H. Dardenne. In proposing the toast of the evening His Excellency announced that the very large sum of £4820 had been collected and this in spite of the present financial depression. He eulogised the untiring energy of the stewards, specially mentioning the large sums collected by Mr. A. Judah and Mr. E. Roehrich, both members of the committee. He also congratulated Mr. Pondepeyre, the secretary of the hospital, on his skilful management of the expenditure during the past year. In fact, the weekly expenditure on in-patients, apart from out-patients, was less than in any other hospital in London. The toast of the "Corps Médical" was responded to by Mr. Edmund Owen in felicitous terms, and to demonstate how well the patients were fed he invited any gentleman present to come to lunch at the hospital, provided they did not all select the same day. Dr. Ogilvie's name was not on the toast list, but on being asked by the French Ambassador to make a few remarks he said:—

> J'ai toujours suivi le principe du pauvre Coquelin, qui disait: "Je n'entreprends jamais un rôle avant de l'avoir étudié à fond." Ce soir je me trouve dans l'obligation de manquer à ce principe; car, un simple désir de son Excellence est un ordre pour moi, et bien que n'ayant pas étudié mon rôle, je vais tâcher de balbutier quelques paroles. Je me sens ce soir comme un métaphysicien écossais. Savez-vous, Messieurs, ce que c'est qu'un métaphysicien écossais? C'est un aveugle, cherchant à tâtons, dans une chambre obscure, un chat noir, qui ne s'y trouve pas. Mon crâne c'est la chambre obscure, et mes idées le chat noir. En effet, Messieurs, mes pensées s'en sont allées, comme à l'automne les feuilles jaunes tombent du chêne; elles s'en sont allées dans l'azur

léger, et comme un songe éphémère, elles n'ont laissé derrière elles—aucune trace. Me trouvant dans une telle condition, ce que j'ai de mieux à faire, c'est de m'asseoir, et de me taire. Avant cela cependant, permettez moi de vous donner mon opinion sur les devoirs d'un médecin. Son premier devoir c'est de prévenir le mal; s'il n'y réussit pas—de le guérir; et s'il n'y réussit pas non plus—de soulager la souffrance et de prolonger la vie. Je finirai, Messieurs, en répétant les mots, non d'un métaphysicien écossais, mais d'un grand mathématicien français—Descartes—"S'il est possible de perfectionner l'espèce humaine, c'est dans la médecine qu'il faut en chercher les moyens."

The proceedings then terminated.

Presentation to a Medical Man.—The officers and staff of the Devon County Asylum, Exminster, have presented Mr. Arthur Nathaniel Davis, L.R.C.P., L.R.C.S., L.M. Edin. (the medical superintendent), and Mrs. Davis with a solid silver centre piece and four vases, as a mark of respect and esteem on the occasion of the celebration of their silver wedding.

Donations and Bequests.—The Sheffield Town Trustees have made grants of £2000 to the Jessop Hospital for Women and £1000 to the Queen Victoria Nursing Association.—Under the will of the late Lieutenant-Colonel James Miller the Radcliffe Infirmary, Oxford, will receive £500.—By the will of the late Mr. Robert Low the Westminster Hospital and the Brompton Hospital for Consumption and Diseases of the Chest will receive £500 each, and St. Mary's Hospital, Paddington, and the West London Hospital, Hammersmith, £200 each.

Jubilee Nursing Congress.—A jubilee congress of district nursing was held in Liverpool on May 13th, the present year being selected on account of the late Mr. William Rathbone having inaugurated an organisation of trained district nurses in that city in 1859. The proceedings of the congress were conducted in three sections dealing respectively with: (1) the history of district nursing; (2) maternity work in connexion with district nursing; and (3) coöperation with boards of guardians, charity organisations, and public health departments. In the first section three of the 12 speakers were Miss Amy Hughes, the Countess of Aberdeen, and Mr. W. J. P. Giddings (editor of the official journal of the Royal British Nurses' Association in Australia). In the second section, which was presided over by Dr. Richard Caton of Liverpool, Dr. Helme read a paper and a number of ladies spoke. In the third section, at which Princess Louise and the Duke of Argyll were present, papers were read by Dr. Arthur Shadwell, Dr. E. W. Hope, and Mr. D. F. Pennant. There was a very large attendance, including delegates from British colonies, from the United States of America, and from many parts of continental Europe. In the evening there was a reception at the Art Gallery.

Death from Veronal Poisoning.—An inquest was held recently at Uxbridge on the body of a man who was alleged to have died from an overdose of veronal. It appears from the evidence at the inquest that the deceased had been in the habit of taking veronal tablets to induce sleep, and that subsequent to an attack of influenza he had suffered from severe pains in the head as well as from great depression, to combat which he took increased doses of the drug. One witness (a maidservant of the deceased) stated that her master told her that he had taken 124 grains of veronal. Dr. F. E. Walker, who attended the deceased, said that the man could not have taken more than 100 grains, as the box and bottle produced would not contain more than that quantity. When he was called to the deceased (some hours after he had taken the large dose) he found him comatose. He remained in that condition until he died two days later. Dr. Walker further said that he understood the deceased had been in the habit of taking four tablets a night, which was equivalent to 30 grains. He considered death to be due to the overdose of veronal. Further evidence was brought forward which showed that the large quantity of the drug had been taken accidentally, and a verdict of "Death by misadventure" was returned. We call attention to this case as of late there have been several instances of the causation of toxic symptoms by veronal. It seems probable that in the present instance the blame of the occurrence must rest with its victim in taking a lethal amount of the drug. But unpleasant effects have been observed from more reasonable doses, and it seems necessary to utter a warning that the administration of this as of all other hypnotics, should be closely watched. The public appear to be too fond of prescribing veronal for themselves.

A Cornish Centenarian.—Mr. James Carne, parish clerk of St. Columb Minor-with-Newquay, celebrated the 103rd anniversary of his birthday on May 3rd.

Deaths of Eminent Foreign Medical Men.—The deaths of the following eminent foreign medical men are announced:—Dr. G. L. Wynkoop, an eminent New York surgeon, from appendicitis.—Dr. Frank W. Draper, professor of forensic medicine in Harvard University.—Dr. Sockeel, formerly surgeon to the Douai Hospital.—Dr. Dujardin-Beaumetz, formerly inspector-general of the French Army Medical Service.—Dr. Albert Guttstadt of Berlin, Privy Medical Councillor and senior member of the Department of Medical Statistics. He enjoyed also the titular rank of professor. Most of his published works were of a statistical character, but he wrote festal essays for the Natural Science Congress of Berlin, 1890, and for the Chicago Exhibition in 1893 and "dictionaries" of Prussian and German hospitals. He founded, and assisted in founding, a number of societies of a medical and charitable nature, and was much interested in all sanitary and temperance movements.—Dr. Stecoulis, the medical adviser of the Dutch Legation and the Dutch delegate on the Board of the Sanitary Council at Constantinople, died last week. He was a well-known personality in the European circles of Pera and for a long time acted as President of the Imperial Society of Medicine.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The State Registration of Nurses.

Mr. Asquith's reception of the deputation on the State registration of nurses was courteous. In his reply he maintained a certain degree of reserve, and he committed himself to no course of action. He only promised careful and sympathetic consideration of the arguments put before him. What the deputation precisely asked was that the Government should give Parliamentary facilities to the Nurses' Registration Bill recently introduced into the House of Commons by Mr. Munro-Ferguson, but at present marked "dropped" in the official papers of the House. Sir Victor Horsley argued that the Bill had behind it a great volume of opinion in the medical profession. Mr. Asquith put several questions to him to elicit the strength of medical opinion on the subject, but although the cross examination was somewhat searching the Prime Minister afterwards characterised Sir Victor Horsley's speech as a very able one. Replying to the contention that the Bill was practically uncontroversial, Mr. Asquith enumerated a number of hospital authorities who were opposed to it, in addition to a section of medical men. What attitude the Government will take up towards legislation on the subject is obscure. Some time ago a suggestion was made that all three Bills relating to the registration of nurses should be read a second time, and referred *en bloc* to a select committee to examine and report upon. This course would not be incompatible with the reply of the Prime Minister. At the same time it must be evident to all observers of current Parliamentary affairs that the programme of the Government is so full this season that Mr. Asquith is little likely to give any facilities to Bills of private Members which do not command complete unanimity in all quarters of the House of Commons.

Medicines and the Spirit Duty.

Mr. Lloyd George has received representations on the increased duty on spirits from the Pharmaceutical Society of Great Britain. The increase of duty is reflected in the increased price of certain medicines.

Medical Men and the Petrol Duty.

It is not improbable that a deputation will be received by the Chancellor of the Exchequer with the object of discussing the peculiar case which medical men who use motor-cars have for an abatement of the petrol duty. The time of Mr. Lloyd George is well allocated up to the Whitsuntide holidays, and it is understood that he is not free to receive such a deputation until these are concluded.

The Royal Commission on Whisky.

The Royal Commission on Whisky and other Potable Spirits will probably present its report in a very few weeks. It has heard all the evidence which it is desired to take, and Lord James of Hereford, the chairman, has intimated that no time will be lost in formulating the report. As the Commissioners showed by their interim report in June of last year, they have reached definite conclusions on the applicability of the term "whisky" to various products of distillation. Their final report will show how they regard the limitations expressed by such terms as "Scotch whisky," "Irish whisky," "grain whisky," and "malt whisky." The Commissioners inquiry included other potable spirits besides whisky. They heard evidence on brandy, rum, geneva, and gin A portion of their report will therefore contain passages relating to these spirits.

Local Education Authorities (Medical Treatment) Bill.

This Bill, which proposes to enable local education authorities to recover the cost of the medical treatment of children provided under Section 13 of the Education (Provision of Meals) Act, 1907, has passed through one of the Standing Committees of the House of Commons.

HOUSE OF COMMONS.

WEDNESDAY, MAY 12TH.

Milk Legislation

Mr. **STANIER** asked the President of the Local Government Board when the Government would bring in its milk legislation —Mr. **BURNS** replied: I cannot fix a date at present, but I shall introduce the Bill as soon as I can.

Mr. **SNOWDEN**: May I ask whether the right honourable gentleman is [illegible] a great number [illegible] on the distinct [illegible]

THURSDAY, MAY 13TH

Mr. H. C Ross and the Egyptian Sanitary Service

Mr. **RAMSAY MACDONALD** asked the Under Secretary of State for Foreign Affairs whether Mr H. C Ross had to leave the Egyptian [illegible] that the Director-General was not prepared to promise him a permanent post in the inspectorate in Cairo

Seizure of Foreign Meat at Grimsby

Mr **STARKEY** asked the President of the Local Government Board [illegible] hether he [illegible] led I am [illegible] meat at [illegible]

STATE REGISTRATION OF NURSES.

A [illegible] Society for the State Registration of Trai[illegible] Prime Minister in his private room [illegible] May 13th The object of the [illegible] professions and of Members of [illegible] Lord Ampthill, Mr Munro [illegible], Sir William Macewen, Dr [illegible] P., Sir Luke White, M.P., Mr Ramsa[illegible] Mr. Smeaton, M P, Mr Field, [illegible] Hospital), Dr Bedford Fenwi[illegible] Prime Minister was accom[illegible] and several officials of Government Departments.

Lord **AMPTHILL** introduced the deputation and explained to the Prime Minister [illegible] had been in pr[illegible] siderable suppo[illegible] subject In 18[illegible] legislation for t[illegible] The principle h[illegible] means of discriminating between the value of the various kinds of certificates which were issued by the different hospitals and training schools. The public could discern no difference between the certificate [illegible] hospital [illegible] of affairs [illegible] those for [illegible] t on the same footing as members of other professions who stood in an [illegible] the medical and dental [illegible] To bring in a Bill?

Lord **AMPTHILL** No, sir, not to bring in a Bill but to give us facilities for one

Mr **ASQUITH** Is there any Bill now pending before either House?

Lord **AMPTHILL** There are three Bills at present There is Mr [illegible] ed as representing the British Medical Association The Association had on repeated occasions passed resolutions practically unanimously approving of the principle of the registration of nurses

Mr **ASQUITH** You do not say that there is anything like unanimity on the subject

Sir **VICTOR HORSLEY**: Very nearly.

Mr **ASQUITH** Do you say that?

Sir **VICTOR HORSLEY**. Certainly. At an annual representative meeting of the British Medical [illegible] which it was borne in mind [illegible] t elected delegates to a repre[illegible] was entitled to speak the voice of the profession Even if it were to be admitted that the British [illegible] dical [illegible] erly [illegible] ited Kingdom

Mr. **ASQUITH** Is that provided in the Bill?

Sir **VICTOR HORSLEY** Yes

[illegible] Bills, those for whom he spoke also felt that the nurses should have an [illegible] which passed through the House of Lords last year and was this session introduced into the House of Commons by Mr. Munro-Ferguson, its principles had been accepted by the Privy Council, the Local Government Board, the Admiralty, and the War Office. The second Bill had been good enough to flatter the first Bill by taking most of its clauses wholesale He thought the only material difference was that the second Bill (Mr Findlay's) wanted a larger [illegible] various quarters on [illegible] views and those of [illegible] Scotland relative t[illegible] with the aim of bo[illegible] secure State regist[illegible] United Kingdom. They desired to obtain for the nurses a recognised standard of teaching and examination for the three kingdoms and that all nurses placed on the British Nurses Register would have equal rights to practise as nurses in any part of Great Britain. The reason why so many nurses recorded their votes for separate registration for Scotland was due to the widespread misapprehension of the clauses of the British Bills. Most of the Scotch nurses had at that time not seen the British Nurses Bills, and the statements which were current concerning them were erroneous and misleading, such for instance that the Scotch nurses would require to go to London to be examined, thus causing them to incur a considerable expense. In neither of the British Bills before Parliament was there such a proposal. On the contrary, each of these Bills had clauses dealing with the [illegible] [illegible]nt centres throughout [illegible] [illegible]ciation had already had [illegible] [illegible]d under its control with [illegible] conjointly had held e[illegible] work in a thoroughly [illegible] explaining the character of the British Nurses' Registration Bills by means of distribution of copies of these Bills, and by letters to the local press had been a decided change in the attitude of the Scottish nurses towards the one portal system for the United Kingdom, so that many of those who previously signed in favour of the separate Scottish Registration Bill had now signed in favour of a single portal system. As an example he instanced one hospital in Glasgow having about 150 nurses on the staff, the majority of whom had previously si[illegible] for Scotland; 120 of these had now sign[illegible] [illegible]ystem for the United Kingdom. In ad[illegible] [illegible] matron, and the assistant matrons had [illegible] This was not an isolated instance. In [illegible] [illegible]d about 600 signatures of medical men and nurses in favour of a single portal system for the United Kingdom. A separate Scottish Bill would act as a barrier to the progress of the Scottish nurse. If the Scottish nurses were to have separate registration that would confine them to Scotland. If they desired to practise in England they would require to pass a second examination in order to be admitted to the British Register. A reciprocal clause of registration would not likely be passed as it would meet with strong opposition from the predominant partner who was not ben[illegible] and probably would be damaged thereby. [illegible] granted legally it would not do away with [illegible] [illegible]roused that the Scottish nurses did not pass the British standard of examination, and such statement would not facilitate the gaining of appointments for Scottish nurses south of the Tweed. It would be stupid for a Scottish nurse going with a patient from Scotland to England to become suddenly an unregistered nurse with no recognition as a trained nurse the moment she crossed the border. The Scottish nurses were quite prepared to welcome and to [illegible] [illegible]mination that might be instituted by th[illegible] [illegible] agency of the British Bills, and they c[illegible] and Irish sisters equal rights of exercising their profession in any part of the United Kingdom so that they might have the opportunity of gaining such positions as their merits might secure.

Miss STEWART explained some of the reasons why the present position of affairs was most detrimental to trained nurses. She argued that [illegible] of a council to enforce a professional [illegible] be conduciv[illegible] [illegible]ire for State [illegible] nursing profession in Ireland. She and her [illegible] sidered that it was essential that a central governing body should be empowered to [illegible] nursing education.

Mr. FIELD, [illegible] Minister that all parties in Ir[illegible] a[illegible] o[illegible] h[illegible] House of Commons would support legislation.

Mr. ASQUITH, in reply, said that he had been pleased to have had an opportunity of receiving so important and representative a deputation and of listening to the views expressed by members of it on a subject with which he had not first-hand familiarity. He understood that the object of the legislation which the deputation was promoting was to provide by means of a representative council the machinery for the examination of persons who were taking up the nursing profession, to set up a register upon which the names of only those persons who had satisfied the examination test should be inscribed, and to provide under penal sanctions that thereafter no one should claim or assume to practise as a registered nurse who had not satisfied that test and had not come on the register. That would not in the least prevent, as he understood the proposal, other persons who had not complied with this test from pursuing the profession of nursing. It would not be the necessary effect of this legislation, as he gathered from what Sir Victor Horsley had said in his very able speech, that the nurse recognised by the State was the only person fit to nurse. The unregistered person, the free-lance, if he might so describe her, would still be in a position to pursue her profession and carry on her calling.

Sir VICTOR HORSLEY: The public will take her at their own risk.

Mr. ASQUITH: As they do now. She would not be entitled to describe herself directly or indirectly as a registered nurse. All present were agreed as to the importance—the growing importance—and the dignity of this great profession of nursing, and as to the magnificent and indispensable services that it rendered to the medical profession and to the cause of humanity in this country. He was certain there was not a man or woman amongst them who did not wish to see it kept up to the highest possible standard of efficiency as regarded [illegible] would com[illegible] but of every [illegible] to deal with [illegible] was the best [illegible] [illegible]hat England, Scotland, and Ireland were [illegible] legislation on the lines which [illegible] laid down [illegible] he was bound to have regard to reports which came to him from other quarters. What did he find? He had got before him a list of representative persons whose opinion was entitled to considerable respect but who were opposed to this legislation. He was not going to read the names of individuals, but the list included the chairman o[illegible] vice-president of the Royal Free [illegible] Middlesex Hospital, the chairm[illegible] Hospital, the chairmen of St. Mary's Hospital, the Hospital for [illegible] College Hospital, the West-End Hospit[illegible] System, the Royal Victoria Hospital, [illegible] College Hospital, the treasurer of St. T[illegible] of St. George's Hospital, and a number of signatures from other hospitals.

Mr. FIELD: You have none from Ireland.

Mr. ASQUITH: But when I am told [illegible] in your favour, the enumeration of t[illegible] that is not quite the case. The right [illegible] said that he had also got before him [illegible] members of the medical profession i[illegible] most eminent members of the profession, in many departments, particularly in obstetrics and in many departments of surgery, and of something like 120 members of the profession of the highest distinction in the provinces who were opposed to legislation of the kind which the deputation was promoting. He had in addition before him the names of 49 matrons in London hospitals and 109 matrons in provincial hospitals who were also opposed to it. He could not, therefore, possibly regard this as a unanimous demand on the part of those persons interested in hospitals, surgery, or nursing. The deputation would therefore agree with him that the Government must look upon the matter as quite controversial. It was not possible to treat this as one of those subjects on which all persons were agreed and on which legislation went through by general consent. Under those circumstances he did not think the deputation could expect him to do more than to promise to give most careful and respectful consideration to the arguments which had been put before him. He had not heard the other side, but he admitted that these arguments *primâ facie*, at any rate, were very cogent arguments indeed. Having regard to the composition of the deputation and the authority which it possessed, he could assure the members of it that their arguments would be most carefully and sympathetically considered by his colleagues and himself. But for the time being, in view of the facts which he had stated, the Government could not regard this as other than a question which required very detailed examination in view of all the interests concerned.

The deputation then withdrew.

MONDAY, MAY 17TH.

The Sanitary Services in India.

Sir WILLIAM BULL asked the Under Secretary of State for India whether the scheme proposed by the Government of India in its letter to the Bombay Government of Dec. 4th, 1907, on the subject of the improvement of the sanitary services in India and of the development of the existing establishments, was completed; and whether any, and if so what, special provisions were made therein to give effect to the view set forth in that letter that a sanitary service offered a suitable and congenial career for [illegible] and that by fully utilising that source [illegible] [illegible]id the expense of materially cr[illegible].—Mr. HOBHOUSE (on behalf of [illegible] [illegible]as not yet been completed. The [illegible] [illegible]rtance to the inclusion in any su[illegible] [illegible] and to which the honourable Member refers.

Medical Examiners in the University of Madras.

Mr. KETTLE asked the Under Secretary of State for India whether he could state the number of examiners for the medical degrees of the University of Madras; how many of them were Indians; and what was the remuneration received by each.—Mr. HOBHOUSE furnished the following written reply: The examiners are appointed by the University authorities and the Secretary of State has no official information as to their number [illegible] received by them: but it appears from the Cal[illegible] at in that year there were [illegible] was an Indian.

The Indian Medical Service.

Mr. KETTLE asked the Under Secretary of State for India whether the higher grades of the medical service of the Native States of India were generally filled by Indians to the satisfaction of the Government and the public; whether less than 10 per cent. of such positions in British-India were held by Indians; and whether he was aware that the exclusion of native [illegible] posts was regarded in India as part of [illegible] Government.—Mr. HOBHOUSE forwarded the following written answer: The Secretary of State has no detailed information on the first point, but he has no reason to doubt that the answer is in the affirmative. As regards the proportion of Indians in the Indian Medical Service, the honourable Member is no doubt aware that that service is recruited by competitive examination and is freely open to natives of India. It is further the policy of the Government to encourage the growth of an independent medical profession in India, and to throw open to the profession in general some of the appointments now held by members of the Indian Medical Service. The Secretary of State proposes shortly to present to Parliament papers on this subject.

Civilian Medical Practitioners and Military Medical Duties.

Earl PERCY asked the Secretary of State for War whether a number of civilian medical practitioners were employed for military medical duties at salaries of £150 a year or more; and whether the services of military medical officers on the retired list were available for the performance of these duties.—Mr. [illegible] furnished the following reply: One civilian medical practitio[illegible] [illegible]d salary of £150 a year. Others are employed a[illegible] with remuneration at capitation rates and the total fees in some instances and at some periods amount to £150 a year or more. In cases where a saving would be effected and retired officers can be found who are willing to undertake the work, appointments are offered to these officers at a fixed salary under Article 449 of the Royal Warrant for Pay, &c. About 70 retired officers are so employed.

TUESDAY, MAY 18TH.

The Mentally Deficient in Workhouses.

Mr. [illegible] asked the President of the Local [illegible]

[illegible]

Poor-law Medical Appointments in the Highlands

[illegible] pointment.—Mr. URE wrote in reply: I am not aware of any instance in which a parish has been without medical attendance to the poor under the circumstances described by the honourable Member. When a vacancy occurs tem- [illegible] appointments.

WEDNESDAY, MAY 19TH.

Milk Legislation.

Mr. STANIER asked the honourable Member for South Somerset, as [illegible] when the [illegible] lent of the [illegible] g the Milk [illegible] Orders.— [illegible] ht honour- [illegible] We hope [illegible]

BOOKS, ETC., RECEIVED.

AMERICAN ECCLESIASTICAL REVIEW, The Dolphin Press, Philadelphia.
(Catholic [illegible] Second Series.) Sketches of the [illegible] who were among the great [illegible] J. Walsh, M.D., Ph.D., LL.D.

ARNOLD, EDWARD, London.
Further Advances in Physiology. Edited by Leonard Hill, M.B., [illegible]
T[illegible] actical Hygiene. By C. F. [illegible] S. Eng., L.R.C.P. Lond., and W. W. C. Beveridge, [illegible] Edin., D.P.H. Cambridge, F.C.S. Price 5s. net.

COHEN, FRIEDRICH, Bonn.
Das Wesen der Krankheit. Von Dr. Hugo Ribbert. Price M.4.

COLLINGRIDGE, W. H. AND L., "City Press" Office, London.
The City of London Directory for 1909. Price 12s. 6d.

CURRIE, JOHN, Edinburgh.
The Pocket Prescriber. By James Burnet, M.A., M.D., M.R.C.P.E. Price 1s. net.

[illegible] d zum Studium der Anatomie des [illegible] Villiger. Price M.1.

EYRE AND SPOTTISWOODE, LIMITED, London.
British National Finance. By J. W. Root. Price 5s. net.

FIFIELD, A. C., London.
The Last of the De Mullins. A Play without a Preface. By St. John Hankin. Price 1s. 6d. net.

FISCHER, GUSTAV, Jena.
Handbuch der Gesamten Therapie. In sieben Bänden. Herausgegeben von Dr. F. Penzoldt und Dr. R. Stintzing. Vierte umgearbeitete Auflage. Dritte Lieferung. Price M 4.50.
Die Krankheiten des Mundes. Von weil. J. von Mikulicz-Radetzky und W. Kümmel. Zweite Auflage. Neu bearbeitet von W. Kümmel. *Price, paper, M.9; bound, M.10*
Weltsprache und Wissenschaft. Von L. Couturat, O. Jespersen, R. Lorenz, W. Ostwald, und L. Pfaundler. Price not stated.

URBAN UND SCHWARZENBERG, Berlin und Wien.
Die Dementia Praecox und ihre Stellung zum Manisch-Depressiven Irresein. Eine klinische Studie. Von Dr. med. M. Urstein. Price M.15.
[illegible]
Z[illegible]

WARMBATH, A., London.
Manual for Chiropody and Management of the Feet. Anatomical and Practical Demonstration. First Edition. Price not stated.

YEARSLEY, W. A. (Mrs.), Avenue Parade, Accrington.
A Practical Self-Cure of Stammering and Stuttering. By Walter A. Yearsley. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ATKINS, SYDNEY ERNEST, L.R.C.S. Irel., L.S.A., has been appointed Medical Officer to the Workhouse and the Children's Home by the St. Thomas' (Exeter) Board of Guardians.

[illegible] D.S., has been appointed [illegible] Bristol City and County [illegible]

[illegible] R.C.P. Lond., M.R.C.S., [illegible] dical Officer and Public [illegible] the St. Thomas' (Exeter) [illegible] Board of Guardians.

BROWNE, FRANCIS JAMES, M.B., Ch.B. Aberd., has been appointed Medical Of[illegible] nt of [illegible] r to [illegible] nted [illegible] rary [illegible] der- land.

HARRIS, JOHN HENRY, M.D. Durh., M.R.C.S., L.S.A., D.P.H. [illegible]

[illegible] rmary. [illegible] has been [illegible] d County [illegible] urgeon to [illegible] ed House [illegible] Certifying [illegible] the Alloa [illegible]

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

[illegible] Officer of Health.

[illegible] or House Surgeon [illegible] former £100 per [illegible] rd, residence, and washing.

ASHTON-UNDER-LYNE, DISTRICT INFIRMARY AND CHILDREN'S HOSPITAL.—Assistant House Surgeon. Salary £90 per annum, with board, &c.

[illegible] House Surgeon. Salary [illegible]

[illegible] lent Assistant [illegible] edical Officer. [illegible] board, wash- [illegible]

CAPE COLONY, FRERE HOSPITAL, East London.—Resident Medical Officer. Salary £300 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—Assistant Surgeon. [illegible] Salary £150 [illegible] ching.

[illegible] ary £100 per annum, with apartments, board, &c.

DUDLEY, GU[illegible] y £60 per annum.

DUMFRIES, [illegible] Research Fellow at [illegible] quarters, attendance, and laundry.

DURHAM COUNTY COUNCIL.—Three School Medical Inspectors (two females and one male). Salary in each case £300 per annum.

EAST AFRICA PROTECTORATE.—Two Medical Officers. Salary £400 per annum, with quarters.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Pathologist and Registrar. Salary £100 per annum.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

GLASGOW, VICTORIA INFIRMARY.—Visiting Physician.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

IPSWICH, EAST SUFFOLK HOSPITAL.—Senior House Surgeon. Salary £80 per annum.

KING EDWARD VII. SANATORIUM, Midhurst, Sussex.—Senior Assistant Medical Officer. Salary £150 per annum, with board, lodging, and attendance.

KING'S LYNN, WEST NORFOLK AND LYNN HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

LIVERPOOL, CITY OF, EDUCATION COMMITTEE.—School Medical Officer. Salary £250 per annum.

LONDON SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter-street, Brunswick-square, W.C.—Demonstrator in Anatomy and Curator of the School Museum (females).

MEDICAL MISSION HOSPITAL, Balaam-street, Plaistow, E.—Assistant Doctor (female) for six months. Board, residence, and laundry provided.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Junior Resident Medical Officer. Salary £50 per annum, with board and residence.

NOTTINGHAM GENERAL HOSPITAL.—Locum Tenens for three and a half months. Salary £45, with board, lodging, and washing.

OLDHAM INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing.

PADDINGTON INFIRMARY AND WORKHOUSE.—Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Honorary Anæsthetist.

REDHILL, EARLSWOOD ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £130 per annum, with board, lodging, washing, &c.

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL.—House Physician. Salary £110 per annum, with board and residence.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Honorary Anæsthetist.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Anæsthetist. Salary £15 per annum.

SHEFFIELD, EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

SHEFFIELD EDUCATION COMMITTEE.—Assistant Medical Officer for Elementary Schools. Salary £250 per annum.

SHEFFIELD ROYAL HOSPITAL.—Honorary Assistant Surgeon.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £100 per annum, with apartments, rations, &c.

SOUTHAMPTON, COUNTY BOROUGH OF.—Assistant Medical Officer of Health. Salary £250 per annum.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Physician. Salary £100 per annum, with rooms, board, and washing.

SUFFOLK DISTRICT ASYLUM, Melton.—Second Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, attendance, and laundry.

SUNDERLAND INFIRMARY.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £70 per annum, with board, lodging, and washing.

THROAT HOSPITAL, Golden-square, W.—Resident House Surgeon. Salary £75 per annum, with board, residence, and laundry.

WALSALL AND DISTRICT HOSPITAL.—House Surgeon, also Junior House Surgeon. Salary of former £100 and of latter £80 per annum, with board, residence, &c.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry provided.

WESTERN AUSTRALIA, STATE OF, MEDICAL AND HEALTH DEPARTMENT.—Medical Officer to the Central Board of Health. Salary £400 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with board, lodging, and laundry. Also Two House Surgeons. Salaries £80 per annum, with board, lodging, and laundry.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Farsley, in the county of York; and at Leith, in the county of Edinburgh.

Births, Marriages, and Deaths.

BIRTHS.

CUNNING.—On May 18th, at 3, Upper Wimpole-street, the wife of Joseph Cunning, of a son

MARETT.—On May 13th, at Avranche, St. Lawrence, Jersey, the wife of E. P. Marett, L.R C.P. Edin., of a son.

PHILLIPS.—On Sunday, May 16th, at 12, Iverna-gardens, Kensington, the wife of Llewellyn Phillips, M.D. Cantab., F.R.C.S., F.R.C.P. (of Cairo, Egypt), of a daughter.

DEATHS.

ELLABY.—On May 13th, at Harley-street, Charlotte Louisa Ellaby, M.D., aged 55 years.

WILSON.—On May 15th, at Dean's-grove, Guildford, James Wilson, late Lieutenant-Colonel R.A.M.C., in his 74th year.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE PRACTICE OF DENTISTRY IN THE PAST.

IN the current number of the *Proceedings of the Royal Society of Medicine*, which we reviewed in our last issue, Mr. Ashley Densham, the learned librarian of the Odontological Section, contributes an interesting historical review of the progress of dental science and literature, which he concludes by quoting a list of fees from the book of Paul Jullion, surgeon-dentist, 1781. The list forms so complete and surprising a conspectus of the field of dental surgery in the days of John Hunter that we reproduce it in full.

	£	s.	d.
Scaling the Teeth...	0	10	6
Bleeding and scarifying the gums...	0	5	0
Filling or stopping up the cavity of a decayed tooth with lead	0	5	0
Ditto with gold	0	7	6
Filing and polishing a tooth	0	2	6
Extracting a tooth or stump	0	2	6
Transplanting a living tooth	5	5	0
Ditto a dead tooth...	2	2	0
Engrafting the crown or body of a sound human *tooth on the root of a decayed one*	2	2	0
Constructing and fitting an artificial tooth with silken ligature	0	10	6
Ditto with gold wire fastenings	0	15	6
Ditto with gold spring	1	5	6
Constructing and fitting an upper or under row of artificial teeth without fastenings	10	10	0
Ditto complete set of artificial teeth with gold springs	25	0	0
Fitting and fixing a human tooth on the same construction as an artificial one with silken ligatures.	2	2	0
Ditto with gold wire fastenings	2	7	0
Ditto with gold springs	3	3	0
Fitting an upper or an under row of human teeth on the same principle without fastenings	31	10	0
A complete set of human teeth with gold springs ...	73	10	0
Constructing and fitting an artificial palate	21	0	0
For the care and treatment required for preserving the health and vigour of the teeth, gums, and contiguous parts of a person's mouth at per year.	4	4	0

This comprehensive tariff gives rise, in our mind, to several reflections. Was it meant for the instruction of the public or was it intended only as a helpful guide to inexperienced practitioners diffident as to the value of their services? If the former, who would not have preferred to part with a quarterly guinea to obtain the prophylactic benefits of the last item on the table rather than risk a bill for £73 as a sequel to the unthinkable *nastiness* of wearing another person's discarded teeth? Then again, where did the "living teeth" for transplanting come from? Did any unscrupulous practitioner, when clearing a mouth in preparation for an artificial denture, ever venture to abstract a healthy tooth or so in addition to the carious offenders and fit his booty "still living" into an edentulous cavity in his next patient's jaw? Or were persons to be obtained willing to part with their healthy teeth to make good another's loss for a consideration easily paid out of the extra 3 guineas accruing to the dentist as the intermediary in the transaction? It is only fair on the period under review to add that the best professional opinion of the day was opposed to this process of grafting teeth, for, according to Mr. Densham, Thomas Berdmore, Dentist-in-Ordinary to King George III., who wrote the first English scientific treatise on dentistry, condemned the practice, argued that "if the replantation of teeth is so rarely successful, how much less can be the implantation of a tooth that can only roughly fit the socket and must ...... inevitably cause pain and inflammation." But however the "living" teeth came into the dentist's hands it is easy enough to imagine the source of the "dead" teeth in a century notorious for its judicial executions. Doubtless, too, the battlefields of Europe paid full toll to the traffic in human teeth, though Mr. Densham is inclined to believe that the "resurrection men" were the chief agents in their collection. It is hardly surprising to read later in his paper that "in 1774 a chemist named Duchâteau, living near Paris, found the colour and odour of his ivory denture so unpleasant that he conceived the idea of having it modelled in porcelain," which gave rise to experiments in which he was associated with Dubois de Chémant, a Parisian dentist who subsequently took all the profit from them in London where he made and sold a "mineral paste" which was the forerunner of the materials used in the manufacture of the perfect artificial teeth of the present day.

In the tariff which we have quoted it is noteworthy that no mention is made of amalgam fillings, which were a contribution of the nineteenth century to dentistry; Mr. Densham, however, attributes the first use of gold leaf for filling dental cavities to Giovanni d'Arcoli, professor at Bologna and Padua, who flourished in the fifteenth century. If we are to accept Mr. H. E. P. Platt's interpretation of a passage from Cicero's second book, "De legibus,' the use of gold in prosthetic dentistry dates back as far as the XII tables of the Roman law which were drawn up by the decimvirs in 450 B C Mr Platt says in his fascinating little book "A Last Ramble in the Classics "The Twelve Tables contained provisions against extravagance at funerals and among them a direction that gold should not be thrown on the funeral pile But an exception was expressely made of gold stopping in a tooth This might lawfully be buried or burned with the corpse 'In lege cum esset 'neve aurum addito' quam humane excipit altera lex "cui auro dentes vincti escunt, ast im cum illo sepeliet uretve, se fraude esto' We should hesitate to differ from Mr Platt on a question of pure scholarship but on historical grounds we are not convinced that "vincti can be rendered legitimately as "stopped ' We have heard the suggestion that the word referred to the ornamental binding of the teeth with gold foil It would surely be as correct to consider it a reference to gold "bar and bridge work as to the process of filling carious cavities with gold But however this may be, Mr Densham has shown in his studious paper that many dental processes have a longer pedigree than some of their modern practitioners would be inclined to put to their credit

THE SANITARY SANCTION FOR CIRCUMCISION

To the Editor of THE LANCET

SIR,—In your issue for May 8th the writer of an article on "Circumcision maintains that this measure was adopted by the ancients rather for sanitary than for religious reasons In this connexion the following quotation may be of interest It is from Philo Judaeus the famous Alexandrian contemporary of Christ: Περι Περιτομῆς (De Circumcisione) [Editio Mangeyana II, 211]: There are for circumcision four chief reasons the first being freedom from a grievous disease and from suffering hardly to becured, which they call carbuncle [*sic*] (obtaining the appellation as I think from its burning on in a smouldering fashion) and which is more prone to happen to those who have prepuces * * * I am Sir, yours faithfully,

The London Hospital, E, May 12th 1909 W H PALMER

A HEARTLESS EXPERIMENT!

THE following spirited protest may interest those of our readers who were present at the recent conversazione of the Royal Society of which we gave an account in our last number Others may have seen a report of the experiment to which our anonymous correspondent refers in some of the daily newspapers, one of which at least published an illustration of the animal in question undergoing its ordeal by electricity To those who are not aware of the recent dedication to science of the bulldog "Jim by his distinguished master, we suggest that some light might be thrown on the matter by a study of Dr Augustus Waller's paper on Einthoven's studies made with his string electrometer which will be found on another page We would also commend the letter that follows as an elegant model to the antivivisection propagandists throughout the country —

To the Editor of THE LANCET

SIR —I think it only right to bring before your notice an experiment of a vivisectional nature although it did not involve actual cutting which was performed at the Royal Society *soirée* last night by a well known physiologist before an audience which included, shame be it said, at least two bishops The subject was a bulldog A strong leather strap plentifully provided with sharp nails was secured around his neck and one fore and one hind foot were immersed in vessels containing water charged with that intensely corrosive metal sodium and that very poisonous gas chlorine An electric current caused by the anxious throbbings of its heart passed through the whole body of the animal and out through the vessels and by some devilish device these throbbings were exposed to view upon an illuminated screen No anæsthetic of any kind was employed and this went on for hours

I am Sir yours faithfully,

INDIGNANT

CUT THROAT IN RELATION TO SPEECH: A MEDICO LEGAL POINT

To the Editor of THE LANCET

SIR —I shall be glad if you would kindly publish the following in your columns as I am desirous of ascertaining what would be the general opinion on the point The subject is of great importance from the medico-legal point of view and I can find no recorded opinion directly bearing on it

In July last a boy was injured in a village in this district shortly before daybreak His throat was cut across and the larynx divided just *above* the vocal cords The wound severed the facial and lingual arteries and also divided the anterior wall of the oesophagus He lingered till sunset. Shortly after the infliction of the injury he is alleged to have spoken and made a statement involving certain persons The nearest medical officer sent for (a medical subordinate serving under me) did not arrive till after the boy was dead He saw the injuries and held the post mortem examination He gave out as his opinion that the gaping wound of the throat rendered speech impossible from the moment of its infliction Before the case went into court he sought my advice and I fully concurred in his opinion Medical opinion to the contrary was, however obtained from outside the district by the defence It was stated by this authority that the wound 'being situated *above* the vocal cords, it would not have prevented the boy from speaking fairly loudly and [illegible] ally grow fainter as the [illegible] ound can be produced when the cut is *above* the vocal cords, but can it be held that *speech* would also be possible under the circumstances? Sound must surely be modulated in the mouth for the purposes of speech Will your readers kindly tell me if they are of opinion that any sound produced in a case like this will reach the mouth and be converted into speech in the presence of a large gaping wound, the presence of blood, possible falling in of the soft parts above shock of the injury, depressed mental state of the injured, and other attendant circumstances?

I am Sir, yours faithfully,

R K MITTER M B, Major I M S,
District Medical and Sanitary Officer

Salem India, April 27th 1909

*** Our correspondent is correct in thinking that in such a case as he describes the voice of the victim would be much impaired but we cannot agree with him that it would be impossible for a bystander to understand anything the patient said Even though the injury to the larynx were very complete and the wound gaped greatly, yet it is almost certain that a portion of the expired air would pass into the mouth and would give rise to sufficient voice to be heard and understood Such an extensive cut-throat wound is unusual as a homicidal injury in this country at least it is nearly always suicidal, and all who have had experience of such cases will agree that nearly always, even where the injury has been very extensive, it is quite possible to understand what the patient is saying —ED L

A MEDAL FOR HEROIC CONDUCT

A CORRESPONDENT has forwarded to us for inspection a silver medal awarded last year to Mr J H Robinson for courageous conduct by the Hamburgischer Verein ' Seefahrt, together with the covering letter received by Mr Robinson from Herr Ballin, the well known director of the North German Lloyd Line We print an illustration

of the striking design on the obverse of the medal The reverse [illegible] letter —

[TRANSLATION]

Hamburg, September, 1903

Dr John Hargreaves Robinson, Southport

The [illegible] of your [illegible] *Nord Se* [illegible] established as a reward for exceptional performances at sea We herewith bring this decision to your knowledge and at the same time beg to inclose to you the medal. BALLIN Director

MEDICAL MEN AND THE CLERGY IN RELATION TO "CHRISTIAN SCIENCE"

AT the Bath and Wells Diocesan Conference on May 14th Mr Stephen [illegible] said that it was a false philo [illegible] of healing The clergy were [illegible] fantastical jargon Medical men could not [illegible] "Christian Science should be fought in the open [illegible] medical practice In practice it all depended on what the two men were in daily life If the clergyman and the doctor were good friends understanding each other honouring each other, not meddling not libelling not gossiping but backing each other up there would be no want of coöperation at the bedside. But if the two men did not like each other, never lent a book to each other, had to be far apart at the feast, and never met for a pipe and a talk, then, of course, the unhappy, innocent patient had to suffer from the stiffness of etiquette manifesting itself over his prostrate form. It all began when the man was quite well, and it was then that events happened which settled whether the clergyman and the doctor would, or would not, coöperate over his sick bed. As to the clergyman, not being sent for until the last, that was a matter for the family, not for the doctor. The doctor and the clergyman must coöperate against "Christian Science," not when people were ill, but when they were well. Take a village where the Lady Bountiful was a "Christian Scientist," the two men must coöperate to make her faith and works a positive burden to her. They must laugh her pretentions to scorn, and explain to people that she was dangerous and show where she had gone wrong. The worst of quarrels was better than letting "Christian Science" spread through a village. "Christian Science" had nothing to do with being ill. It got at people when they were well; it loved prominence, razzle-dazzle, and advertisement. After severely criticising the claims of certain faith-healers, and stating that doctors could not coöperate with such people, Mr. Paget asked what the clergy were going to do when a doctor was hostile or indifferent and left a case. If the patient died the clergyman would be landed with all the difficulties of the Peculiar People. How long would the clergyman continue the treatment? To what cases would he apply it? A mother might bring a child with a cleft palate or a hare lip, what would the clergyman say? There were, Mr. Paget argued, a whole range of diseases in which it would be as futile to expect good results from "Christian Science" as in those of physical malformation he had referred to. He did not deny that faith, hope, and love might somehow help a man to hang on in a case of typhoid fever or diphtheria until he had brewed in his own system sufficient antitoxin, or had had it injected into him, but he did not believe that faith, hope, and love made any difference to the germ of which the disease was the work, or to the brewing of the toxins or antitoxins once the germs got in. It was a chemical process and could be reproduced in a rabbit or a test-tube.

YELLOW FEVER IN BRITISH HONDURAS IN 1905.

To the Editor of THE LANCET.

SIR,—With reference to your note on p. 1433 in THE LANCET of May 15th we have to say that we published Sir Rubert Boyce's report in 1906. It was circulated in this country and copies were sent to the press. The copy we sent you was reviewed in your journal dated May 12th, 1906. The report is published at 3*s.* 6*d.* net, and copies can be obtained through a bookseller or direct from us.

We are, Sir, yours faithfully,
J. AND A. CHURCHILL.

Great Marlborough-street, London, W., May 14th, 1909.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

MONDAY.

ODONTOLOGICAL SECTION (Hon. Secretaries—H. W. Trewby, D. P. Gabell, J. Howard Mummery): at 8 P.M.

Paper:

Mr. Warwick James: A Preliminary Note on the Eruption of the Teeth.

TUESDAY.

MEDICAL SECTION (Hon. Secretaries—Herbert P. Hawkins, A. M. Gossage): at 5.30 P.M.

Papers:

Professor R. T. Hewlett: The Treatment of Typhoid Fever with an Anti-endotoxic Serum.

Dr. E. W. Goodall and Dr. Bruce: The Results of Treatment of Cases of Typhoid Fever with the same Anti-endotoxic Serum.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—Hugh Lett, E. I. Spriggs, Harold J. Stiles): at 4.30 P.M.

Papers:

Dr. Parkes Weber: Congenital Obliteration of the Bile-ducts with Cirrhosis.

Mr. A. R. Thompson: Congenital Dislocation of Hip.

Cases:

Dr. Eric Pritchard: (1) Unilateral Hypertrophy of the Hand; (2) Symmetrical Helical Fistulæ with Branchial Fistula in an Infant.

Mr. Sydney Stephenson: A Case of Oxycephaly.

Dr. George Carpenter: (1) Case of Congenital Morbus Cordis; (2) Specimen of Congenital Hypertrophic Stenosis of Pylorus.

And other Cases.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. H. G. Adamson: Clinique (Skin). 5.15 P.M., Lecture:—Dr. F. J. Smith: The Treatment of Typhoid Fever.

TUESDAY.—4 P.M., Dr. C. T. Williams: Clinique (Medical). 5.15 P.M., Lecture:—Dr. T. N. Kelynack: Open-air Schools for Tuberculous Children (with lantern slides).

WEDNESDAY.—4 P.M., Mr. R. Johnson: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. R. W. Allen: The Pathology and Treatment of a Common Cold.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Sir John Broadbent, Bart.: Relation of Arterio-Sclerosis to Aneurysm and Renal Disease.

FRIDAY.—4 P.M., Mr. E. Clarke: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Lloyd: Anæsthetics.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Saunders: Clinical (with cases).

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Harman: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Medicine.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Dunn: Cases of Eye Diseases.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Lecture:—Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Abraham: Cases of Skin Diseases.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. Mr. Harman: Diseases of the Eyes. 12.15 P.M., Lecture:—Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, *Prince of Wales's General Hospital, Tottenham, N.*

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles): 4.30 P.M., Lecture:—Dr. B. Price: The Various Forms of Congenital Heart Disease and their Diagnosis.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture:—Mr. H. W. Carson: Catarrhal Deafness.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye. 3.30 P.M., Special Lecture:—Mr. Cargill: Glaucoma, its Symptoms, Physical Signs, and Pathology.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Dr. R. Bradford: Hemiplegia. 3.15 P.M., Special Lecture:—Mr. McGavin: Psoas Abscess, its Origin [illegible] Treatment.

SATURDAY.—[illegible] Out-patient Demonstrations:—10 A.M., [illegible] 11 A.M., Eye.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.

TUESDAY.—5 P.M., Clinical Demonstration: Dr. J. Mackenzie.

WEDNESDAY.—3 P.M., Clinical Demonstration: Dr. F. Palmer.

THURSDAY.—3 P.M., Clinical Demonstration: Dr. T. D. Savill.

FRIDAY.—2 P.M., Clinical Demonstration: Dr. P. Stewart. 5.30 P.M., Clinical Demonstration: Dr. E. Macnamara.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Dr. Kingsford: Anæsthetics.
FRIDAY.—3.45 P.M., Lecture:—Mr. W. Wallis: Mouth and Teeth.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture.—Dr. F. E. Batten: Cerebellar Disease.
FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. W. A. Turner: Epilepsy.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (24th).—London (2 P.M.),

St. Mark's (2.30 P.M.)

Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's

Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat,
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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 20th, 1909.

Date	Barometer reduced to *Sea Level* and 32° F.	Direction *of* Wind	Rain fall	Solar Radio in Vacuo	Maximum Temp Shade	Min. *Temp*	Wet *Bulb*	Dry *Bulb*	Remarks.

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U.—United Services Medical Society, Lond., Hon. Secretary of; Dr. W. F. Umney, Lond.

V. [illegible] Mineral- [illegible]

W. [illegible] Lond.; Dr. E. Wuttke, Halstead, U.S.A.; Messrs. Wills, Lond.; Messrs. Williams and Norgate, Lond.; Dr. F. R. Walters, Farnham; West Norfolk and Lynn Hospital, King's Lynn, Secretary of; Wolverhampton General Hospital, Secretary of; Messrs. W. Wood and Co., New York; Messrs. J. Woodhead and Sons, Leeds; Messrs. J. Wright and Sons, Bristol; Dr. John Wyllie, Hull.

Y.—Mr. W. A. Yearsley, Accrington.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. J. Austin, Birmingham; Lieutenant-Colonel J. R. Adie, I.M.S., Ferozepore, India; Addenbrooke's Hospital, Cambridge, Secretary of; A. F. W.; A. P. M.; A., Leeds; A. F. M.; Messrs. Allen and Hanburys, Lond.; Anglo-American Pharmaceutical Co., Croydon; A. C.; A. J. D.; A. L.

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A Clinical Lecture

ON

HYPERNEPHROMA.

Delivered at University College Hospital on Feb. 10th, 1909,

By WILFRED TROTTER, M.S. Lond.,
F.R.C.S. Eng.,
SURGEON TO THE EAST LONDON HOSPITAL FOR CHILDREN; ASSISTANT SURGEON TO UNIVERSITY COLLEGE HOSPITAL.

Gentlemen,—The increased attention which is now being directed, on account of the revival of the controversy as to their origin, to the class of renal tumours known as hypernephromata has led me to take a case of such a tumour of the kidney recently under my care as a text for this afternoon's lecture. I shall divide what I have to say into two chief parts. In the first I shall give a very brief summary of the case I have just mentioned, then deal shortly with the naked-eye anatomy of these tumours as exemplified characteristically in the specimen from this case, and finally with the clinical features of the disease, which are for the most part obvious corollaries of the morbid anatomy. In the second part I shall describe the chief microscopic characters of these tumours, showing you on the screen the structure of the specimen in this case and then shortly discuss the hypotheses of the pathogenesis of hypernephromata.

Part I.

Clinical history of case.—The patient, a man, aged 54 years, was admitted under the care of Dr. F. J. Poynton, who kindly transferred the case to me. There was a history of pain in the left side of the abdomen coming on especially after heavy meals and lasting for about one and a half hours. The patient had been subject to this pain for about five months. For about a month longer he had noticed occasional attacks of stabbing pain over the region of the heart. The attacks lasted for from five to ten minutes. There had [illegible] occasional passage [illegible] was thin and unhealthy [illegible]ation showed no striking change the appearance of the skin and mucous membranes suggested a pronounced anæmia. A tumour was present in the left loin. It was of about the size of a cocoanut, roughly globular in shape, fairly uniform in outline, and elastic in consistence. It filled the loin from behind and was resonant in front. The tumour was distinctly tender. The temperature rose every evening to about 100° F. The urine was normal. The case was regarded as one of pyonephrosis or tumour. On Dec. 28th I explored the swelling through a lumbar incision, found it to be a tumour, and removed it with the kidney from which it grew. The patient recovered rapidly, the large wound healed by first intention, and at the time of discharge, three weeks later, the general health was much improved and there was no pain or other evidence of disease. The tumour, which was of about the size of a cocoanut, proved to be a hypernephroma. The specimen shows the characteristic naked-eye features of these growths.

We may now enter upon some general account of the hypernephromata. The classification of the tumours of the kidney has always been one of the most difficult and thankless tasks of the morbid histologist. The possible varieties of structure have seemed almost too many even to be enumerated and too varied to be generalised. For a long time the histology of these tumours consisted of a number of [illegible]

step in advance was made in the classical work of Grawitz, who showed that a large number of the most widely different histological pictures were different aspects of one and the same tumour. He showed that it is a characteristic of this tumour to display in different parts structures of the most different kinds, but that through all its varieties a thread of similarity runs which renders the recognition of it at all times easy and certain. He went further, however, and produced a considerable amount of evidence to show that these tumours might be correlated with the well-known existence in the kidney of small islets of tissue identical in structure with the suprarenal body, and sought in fact to demonstrate that the tumour originated in these ectopic masses of suprarenal tissue. His contention was generally accepted and has remained until quite recently uncontested, so that the tumour to-day goes by the name of Grawitz's tumour or, more widely, hypernephroma. We shall mention later some of the chief arguments used by Grawitz to support the hypothesis of the suprarenal origin of these tumours.

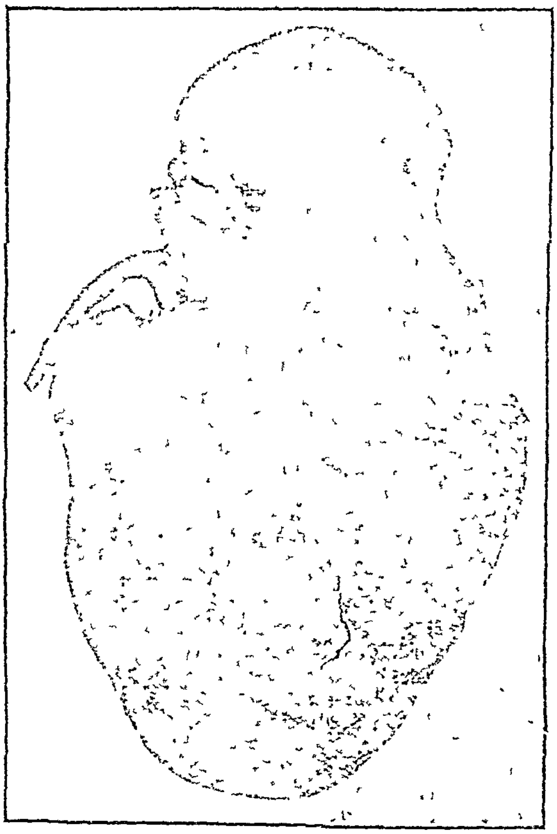
For a considerable time it was supposed that the hypernephroma was a comparatively rare tumour. The increase of experience which has come with the rapid diminution in the mortality of nephrectomy has, however, shown that this opinion was not justified. The various series of cases of malignant disease of the kidney which are published from time to time have shown an increasing proportion of hypernephromata to the whole; this may be ascribed to increasing familiarity with the microscopical and macroscopical characters of the tumour, and the recognition of the fact that there are no tumours which vary in structure so much from part to part as do kidney tumours, and that therefore no kidney tumour can be regarded as adequately investigated until sections from many different parts of it have been examined. The increase in the cases classified as hypernephromata has occurred for the most part at the expense of those formerly described as carcinoma. Anyone at all familiar with the histology of the tumour can well understand how many hypernephromata may have been mistaken for carcinomata, for an isolated section may show a striking resemblance to a typical alveolar carcinoma. That this mistake has probably been common is well shown in an example quoted by Albrecht. In one of the cases published in Lotheisen's series the kidney was removed and the growth described as an adeno-carcinoma. Ten years later the patient died in von Eiselsberg's clinic in Vienna of a late recurrence in the bronchial glands which showed the characters of a typical hypernephroma. As to the increase in the num[illegible] that Perthes, w[illegible] the papers of C[illegible]erature, whereas now, after another 12 years, several hundred could probably be collected quite easily.

Putting together a few of the more recent series of cases of kidney tumour we find that out of 196, 146 were hypernephromata—that is, almost exactly 75 per cent. The remaining 25 per cent. are made up mostly of sarcomata, to a much less extent of squamous epitheliomata of the pelvis, while a true carcinoma of the kidney apart from hypernephroma is a very great rarity or possibly does not exist. The kidney tumours of children are practically all sarcomata; there is but one case on record of a true hypernephroma in an infant, and, as was long ago pointed out by Kuster, malignant disease of the kidney is a disease of earliest childhood and middle age, affecting but little young adults and the aged. Hence, we may lay it down definitely [illegible] common kidney tumour of adults [illegible] kidney tumour in an adult is [illegible] of this type than anything else. This is the only etiological fact bearing on the disease which we can regard as absolutely definite. There is, of course, the ubiquitous history of injury, but the conditions here make it even more than usually liable to suspicion. We know that the tumour may be present for a very long time before it is discovered, so that injury may come to have its apparent importance merely by calling attention to the part; moreover, it is very probable that it may induce a hæmorrhage from a kidney the seat of a tumour when it would not do so from a sound one.

Macroscopic anatomy.—The most striking characteristic of the naked-eye anatomy of these tumours is their tendency to show a more or less definite encapsulation. Pathologically, of course, there is n[illegible] tumour, except in ve[illegible] separable from the [illegible] substance even, the [illegible] partial separation may sometimes be effected. I have seen a case, for example, in which the dissection of the tumour out of the kidney seemed for a time during the operation to be feasible—though, of course, such an attempt had ultimately to be given up when the true nature of the disease became apparent. A second characteristic is that the tumours tend *to grow out of* the kidney, leaving very often a large part of the latter to all appearances normal. Ultimately the tumour breaks through its false capsule and extends diffusely in the surrounding tissues. In this specimen the encapsulation is for the most part quite well marked, but you will see that in one place the growth has come through and is involving the perinephral fat.

The growth then commonly appears as a smooth nodular or bossy mass projecting from the surface of the kidney which has become, as it were, an appendage of the tumour. (Fig. 1.) The latter, examined externally, is of a yellowish-white colour. Its substance varies from a considerable firmness, in which, however, there is always a certain element of elasticity on account of the presence of the capsule, to a definite fluctuation. Large cystic areas are not uncommon.

FIG. 1.



Anterior aspect of specimen. At the hilum the renal vein distended by growth can be seen. In front of the lower pole of the tumour is the part where the capsule had been broken through and the surrounding fat was being involved.

Mr. J. H. Kirk, Florence; Messrs. R. A. Knight and Co., Lond.; Messrs. J[illegible] and | Lond.; Mrs. A. M. Smith, H[illegible] St. Barth[illegible]

A section shows a very characteristic picture. The tumour displays a striking lack of homogeneity. It is irregularly cut up into lobules by slightly marked fibrous bands. The substance is mostly yellowish-white in colour, opaque, and of structureless appearance. Parts are more translucent and greyish-white, others softened and caseating. The most characteristic thing, however, is the presence of irregular patches and sometimes considerable areas of a bright yellow colour. These are not unlike the slough in a deep seated gumma, but are of irregular outline, of a brighter yellow, and not so tough. The picture is further diversified by the presence of areas of red or brown colour and granular or fleshy aspect; these are usually few.

The process of caseation may go on to the formation of considerable cysts. In the walls of such cysts calcification may sometimes be present—an evidence of the length of time these tumours may exist. The pelvis of the kidney is usually pressed on, and displaced, by the tumour. It is frequently stretched but not often dilated, while ulceration of the tumour into it is a rare and late manifestation. One more feature often present may be mentioned, and that is the early invasion of the renal vein by the growth; it is by no means unusual for the vein at the hilum of the kidney to be obviously distended by tumour substance growing within it. (See Fig. 1.) The nak[illegible] nephroma, then, are fairly [illegible] is usually recognisable at once with a considerable amount of certainty.

To resume, the most important characters are the encapsulation, the absence of diffuse infiltration of the kidney so that some part of the latter recognisably projects from the mass, the multiformity of the section, the presence of caseation and sometimes cysts, the bright yellow areas, and finally, in some cases, the invasion of the renal vein.

CLINICAL MANIFESTATIONS.

From the anatomical characters described above much of the clinical behaviour of these tumours may be inferred, while such features as are not directly to be correlated in this way are expressions of the rate of growth.

Duration and rate of growth.—All degrees of malignancy and all rates of growth are found. The tumour may reach a great size and produce widespread metastasis within a few months; on the other hand, it may develop extremely slowly, years may elapse between the appearance of the initial symptom and the recognition of the renal tumour clinically, again, many more years may pass and then a solitary metastasis appear. Distant recurrences—six, eight, or even ten years after the removal of the primary tumour—are not very uncommon, and similar intervals may elapse between the first hæmaturia and the recognition of the enlargement of the kidney by palpation.

Striking differences may occur between the rate of growth of the primary tumour and that of the metastasis. Albrecht, for example, records a case in which several years elapsed after the removal of a metastasis before the kidney became palpable—and this in spite of the fact that after the recognition of the nature of the metastasis repeated and most careful examinations had been made. The resemblance between the behaviour of these tumours and that of malignant disease of the thyroid is very striking, and has been frequently commented on. The extremely long periods that in some cases have elapsed between the occurrence of the first symptom and the recognition of the kidney tumour or the appear[illegible] metastasis has suggested that, like carcinoma [illegible] pernephromata may exist for many years as an apparently benign growth.

Symptoms.—It may be said in general that some symptoms are almost always present, that they are very rarely characteristic and often not even suggestive of the disease, and that they are much more usually misleading than helpful.

General.—The general health of the patient is not usually in any way affected until long after the existence of the tumour has become readily recognisable. Perhaps the commonest general sym[illegible]ptom, and the one most likely to mislead, is fever. A continued elevation of temperature to about 100° F. is not at all uncommon and may lead to a diagnosis of pyonephrosis, as I have known to happen several times.

Urinary symptoms.—In many cases these are entirely absent. Hæmaturia and lumbar pain are the commonest. The hæmaturia, when it occurs, is often profuse, tends sometimes to be associated with strain or local injury, and may spontaneously disappear for long periods. According to some authors, a minute trace of blood in the urine is very common. The pain is usually dull, aching, and continuous and not much influenced by rest or exercise. Renal colic may follow hæmorrhage or involvement of the renal pelvis by the growth leading to sudden obstruction.

Symptoms suggesting disease of neighbouring organs.—Intestinal and gastric symptoms are the commonest of these. Epigastric pain associated with digestion, nausea, vomiting, and loss of appetite may be present, and so definite as to give rise to some difficulty if there is no palpable tumour or its renal origin is not clear. In one of Albrecht's cases there were marked chemical alterations in the gastric contents and a formal diagnosis of carcinoma of the stomach was made. In the case reported here there was pain which seemed undoubtedly to be of gastric origin.

Evidences of involvement of veins.—Two such may be p[illegible] œdema of the legs and varicocele. The first is rare; I have known it once to be the first symptom which attracted attention. It is due to involvement of the vena cava.

nevertheless, may be of unequal distribution on the two sides. It might be expected to be commoner with right-sided tumours than with left, but I know of no statistical evidence of this.

Varicocele.—Since this sign was first pointed out by Guyon it has attracted much attention, and monographs have been written upon it, notably by Hochenegg. It is not a sign which I have seen to be of any special value. To be suggestive it should come on suddenly in a middle-aged man, and it should not vary in size with the position of the patient. Finally it is more frequent on the left side, more significant on the right.

THE TUMOUR.

This may be dealt with under three heads—the characters of the tumour as renal, the characters of the tumour as hypernephroma, and aberrant types.

As *renal* the tumour is in the loin, which it fills from behind, or can be displaced into the loin; is in contact with the posterior abdominal wall from the first and with the anterior wall only late, so that a hand laid on the loin meets with resistance at once, while one laid on the anterior abdominal wall must be depressed more or less before resistance is felt. In front is the colon which may, if the tumour is large, be felt, or otherwise be recognisable by percussion after distension per rectum with air; the colon lies over the lower inner angle of the mass. The tumour moves in respiration; its margins are rounded and its surfaces curved so that it cannot lie flat against the abdominal wall unless very large.

As *hypernephroma* the tumour is never very large, except in the latest stages when diagnosis is no longer difficult; typically it is rounded and but faintly bossy, well-defined, moveable with the diaphragm, by manipulation and with changes in posture; it is firm, tense, and elastic, and sometimes obviously cystic; it frequently has somewhere in its outline one large distinct boss—the kidney; at times there is marked tenderness. It resembles a hydronephrosis in distinctness of outline, mobility, elasticity, and possibly long duration, but it does not usually give the impression of a single uniform cyst, while even the cystic forms have harder parts in them. It resembles a pyonephrosis in being associated with fever and in the elasticity and tenderness, but it is more distinct and more bossy in outline, much more moveable, usually of longer duration, and is but rarely accompanied by the presence of pus in the urine. Occasionally the simulation of the clinical picture of pyonephrosis is almost irresistibly exact.

Aberrant clinical types: latency of the primary tumour.—The primary tumour may be absolutely symptomless, so that there may have been nothing to attract the patient's attention to it, and he presents himself to the surgeon for a secondary growth in some distant part of the body. Such a secondary growth is almost always in a bone and is quite usually single. The kidney shares with the prostate, the thyroid, and the breast the character of being an organ in which growths originate which tend in an especial degree to produce metastasis in bones, and with the thyroid the character of frequently producing a metastasis which remains solitary for a long period. Hence it is a valuable clinical maxim that a malignant growth of a bone in an adult should never be operated on without the condition of these two organs having been carefully considered. A further difficulty, however, may be met with. Not only may the primary growth be symptomless, but it may grow so slowly as to be quite inaccessible to palpation at a time when obvious metastasis has occurred.

Simulation of other tumours.—On the left side the growth has been mistaken for gastric, splenic, and colic tumours, in each case the mistake being facilitated by the presence of symptoms suggesting disease of the suspected organ. In one case known to me the tumour forming a very large projection from the convex border of the kidney had rotated into a vertical position so that the lower pole of the kidney projected forward and the recess between it and the tumour simulated very closely the notch in the anterior margin of the spleen. It is not necessary here to repeat the various diagnostic features of these different tumours; it is enough to [illegible] of a growth [illegible] l, deep, and [illegible] superficial and has a sharp edge.

So marked is the tendency to the production of single secondary growths that these cases, with perhaps some similar thyroid cases, are amongst the very few instances in surgery where a primary growth and a systemic metastasis may be operated on with a rational hope of obtaining a cure. The clinical characters, then, of this disease are such as to make failures in diagnosis extremely likely to occur, while these failures are exceptionally serious as they may lead the surgeon to overlook in its early stages a form of malignant disease which offers a reasonable hope of curability, or to embark upon dangerous and hopeless operations.

TREATMENT.

The indications for treatment when once the diagnosis is established are usually quite clear. A kidney containing a hypernephroma must be removed. However tempting it may appear to do a local resection of the kidney when the tumour is small, experience teaches that nothing less than a total nephrectomy is justifiable. In the absence of secondary growths mere size of the tumour should not be regarded as a contra-indication unless there is obvious involvement of other abdominal organs. In this connexion it is interesting to notice that although tumours of the colon suitably placed frequently involve the kidney, tumours of the kidney rarely involve the colon. Again, as already said, the presence of a *solitary* metastasis in an accessible position should not contra-indicate operation on that, and of course on the kidney.

The technical details of the operation must be designed so as to provide for four essential requirements. These are: preliminary exploration of the extent and connexions of the tumour and of the condition of the opposite kidney; free access to the tumour and especially to the pedicle; early division of the pedicle; and removal of the fatty capsule of the kidney with the tumour.

Preliminary exploration can only be carried out satisfactorily through a peritoneal incision, and is essential to [illegible] upon a dangerous and [illegible] pletion of it impossible. [illegible] early division of it are important for two reasons: first, the prevention of shock, which is very great if on account of an inadequate incision much pulling on the parietal peritoneum and pedicle is necessary; secondly, the prevention of the detachment of emboli of the growth during the manipulation—the actual occupation of the renal vein by growth being very common. Removal of the fatty capsule is an important precaution against recurrence, but it is unfortunately difficult to carry out, and one is tempted not to do it by the ease with which the tumour shells out.

The incision which best allows these various requirements to be carried out is, in my opinion, undoubtedly the transverse. If there is doubt as to the nature of the case the incision may be begun in the usual oblique direction in the loin. As soon as it is clear that a tumour of any size has to be dealt with the incision is carried transversely forwards, if necessary as far as the edge of the rectus. With the patient on the side and a large sandbag under the opposite loin, the wound gapes widely and affords admirable access to the tumour without any of the violent pulling and tearing which are so disastrous in these operations. Across the wound, somewhere about the plane of the anterior superior spine, if the tumour is of moderate size, the reflection of the peritoneum runs vertically. The peritoneum should now be incised in front of the reflection and the relations of the tumour explored intraperitoneally. If nephrectomy is decided upon, the posterior parietal peritoneum with the colon is pushed off the front of the tumour, the pedicle defined, tied in the usual three parts, and divided, care being taken to remove as much of the renal vein as is possible. Now the tumour with the surrounding fat can be removed without the usual dangers of shock or embolism. The peritoneal incision is closed, the fleshy muscles should be stitched in one layer, the external oblique in another, and a small drain brought out in the posterior angle of the wound.

The operation I have described was done in the case which has been my text to-day. The patient, although by no means in a very satisfactory general condition, had no shock whatever, the operation throughout was extremely easy, and the wound healed by first intention.

A word may be added upon prognosis. The mortality of nephrectomy for tumour is said to be about 25 per cent. In alveoli are fairly small and their contents solid and tightly packed. When the alveoli are larger and the packing is less tight, the cells stick to the vessels but disappear in large part from the rest of the spaces, so that the perivascular cylindrical structure already described is produced, and the cells no doubt being freer to grow are apt to produce the monstrous club-like forms. Degeneration of the cells of the tumour readily occurs, and it does not need the examination of many sections to show that degenerative changes have a special tendency to appear in the centre of the alveoli. Such a degenerating alveolus will be of large size, will show a peripheral zone of healthy cells several layers thick and a central mass of protoplasmic and nuclear débris. The picture then comes closely to resemble some of the tubular carcinomata of the breast in a striking way. Some of the alveoli showing this degenerative change are elongated and then give the picture of a tube lined by an irregular layer of cells and containing a central column of débris—the resemblance then to a swollen tubule of the kidney is remarkably close. The general arrangement is nevertheless obviously alveolar.

Tubular type.—In these parts of the tumour the structure is that of a columnar cancer; elongated ramifying spaces are present, lined for the most part by a single layer of well-formed cells of an irregularly cubical or columnar form. Papillary processes projecting into spaces may be very typically developed but do not as a rule show any great complexity of ramification. (Fig. 3.) The stroma here also for the most part consists of thin-walled vessels which run between the tubules. In general in this tumour the tubular parts show smaller and more regular cells than do the alveolar, so that the suspicion seems justified that the former is the essential type of the tumour and that the latter is derived from it secondarily.

The hypotheses of Grawitz and Stoerk.—The principal arguments of Grawitz in favour of the supposed origin of these tumours in suprarenal rests are summarised by Stoerk as follows. 1. The correspondence between the subcapsular situation of the tumour and that of the islets of suprarenal tissue which are found in the kidney. 2. The striking differences of the characters of the tumour cells from those of the renal epithelium. 3. The presence of fat in the tumour cells and in the cortical cells of the suprarenal and its absence from the kidney epithelium. At the outset of his criticism Stoerk [illegible] the [illegible] weighty questions, Why do hypernephro[illegible] in the kidney and never in the [illegible] secondly, Why are suprarenal tumours both be[illegible] always so different in structure from [illegible] He points out that islets of suprarenal tissue are found in the liver, but that hypernephroma never occurs there. He shows also that while the suprarenal islets are commonest in the upper pole of the kidney, hypernephromata affect chiefly the central part.

With regard to the subcapsular situation, he remarks that while suprarenal islets may occur actually within the substance of the fibrous capsule of the kidney, this is never the case even with the smallest hypernephromata. The supposed resemblance between the cells of the hypernephroma and those of the suprarenal Stoerk denies with the greatest emphasis. The "swollen cell" especially, which is the most characteristic feature of hypernephroma sections, is totally unlike anything found in the suprarenal body. It is true the hypernephroma cells show the presence of a doubly refracting substance, as [illegible] cells, but Stoerk adds that many other [illegible] show the same phenomenon. With these and other arguments Stoerk makes a very formidable attack upon the hypothesis of Grawitz, and he follows this up by showing that the hypernephroma is essentially a tumour of tubular structure tending t[illegible] of spaces and intracystic formations, [illegible] kind occurs in the suprarenal. Finally, he produces evidence to show that in the sma[illegible] masses found in kidneys undergoing [illegible] structures are to be found resembling [illegible] of the most characteristic parts of a hypernephroma, and he gives some very striking illustrations. He concludes, therefore, that the tumour must be classified as an adenoma, cystoma papillare, or carcinoma—*according to the form in which it occurs.*

It has not been possible in any way to do justice to Stoerk's paper, and I am fully aware that I have given but the roughest summary. Still, it will be obvious that the wor[illegible] for a very serious reconsideration of [illegible] tumours. Personally I hasten to [illegible] h up to the time of reading Stoerk's paper fully acquiescing in the accepted views, I have been a good deal impressed by his arguments, and I think they may be added to. There seems to be very little doubt that these tumours are essentially tubulo-cystic in structure; the specimen in the case reported here confirms this very strikingly, and shows, I think, clearly that the perivascular arrangement which seems at first sight the primary structure of the tumour is a secondary development.

What would appear to be a significant argument seems to me to follow from the very great relative frequency with which these tumours are now known to occur. When Grawitz first enumerated his views in 1883, the tumour was thought to be rare, but in 1905 we already find Albrecht saying that hypernephromata undoubtedly form the great bulk of kidney tumours and that, apart from epithelioma of the pelvis, carcinoma is of the greatest rarity. To-day it would probably almost be justifiable to say that all primary epithelial tumours of the kidney substance are of this nature This would leave us in the remarkable position of having to believe, if we maintain Grawitz's hypothesis, that in a glandular organ so subject to malignant disease as is the kidney, a true carcinoma of the gland substance does not occur. Moreover, many facts of the growth of these tumours are quite as consistent with the views of Stoerk as with those of Grawitz. For example, if the tumour originates in the convoluted tubules it must always be primarily in the cortex; again, the essential circulatory condition of its origin will be a slow venous blood current, the convoluted tubules receiving their blood-supply entirely through veins from the glomeruli, and its growth will begin in the most intimate relation to the purely venous networ[illegible] tubules. It is perhaps possible that h[illegible] int of the reason why the tumour shows [illegible] rare among the epithelial growths—to penetrate and spread within the veins, and an inclination to develop metastatically in bones so marked that it is nearly true to say that if there is a single secondary growth it will be in a bone

One of the most valuable lines of thought which are constantly being suggested by Stoerk's paper is the question as to what influence we may expect the original structure of an organ to exercise upon the structure of a carcinoma developing in it. It would seem probable *a priori* that the more elaborate the normal arrangement of the epithelium of a glandular organ is, the more complicated may we expect to be the picture which a carcinoma growing in it may present It is in this connexion perhaps suggestive that the only organ in the body approaching the kidney in the complexity of its tubular structure, and, like the kidney, maintaining its function until late in life, is the testicle. The complexity and multiformity of the tumours of the testis need no emphasising. A careful comparison of the structure of the tumours of the two organs from this point of view would probably yield much of interest, and at any rate perhaps justify the indulgence in speculation which suggests it

THE RESULTS OF A YEAR'S USE OF VACCINES IN GENERAL MEDICINE.[1]

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WHEN your secretaries kindly asked us to bring before the society some subject of therapeutic interest it struck us that it might lead to a useful exchange of opinion if we laid before you every case which during the past year we have conjointly treated with vaccines, excluding those treated with tuberculin Our only reason for excluding these is that tuberculosis is usually such a slow disease that it is impossible to draw conclusions as to treatment until many months have elapsed. The following cases have all occurred since Jan. 1st, 1908. Those at present still under treatment are not included, but with that exception we give every case which we have jointly treated with vaccines, so that we may as far as possible arrive at a correct view of its value. We have grouped the cases under the following heads: A. Genito-urinary System; B. Alimentary System; C. Empyemata and Subdiaphragmatic Abscesses; and D. Miscellaneous.

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[1] A paper read before the Therapeutical and Pharmacological Section of the Royal Society of Medicine on May 4th, 1909.

A. *Genito-urinary System.*

CASE 1.—The patient, a female, aged 49 years, married, had suffered from multiple arthritis for nine months. It had been regarded as osteo-arthritis. No benefit had followed any of many lines of treatment. The gonococcus was not isolated from the vaginal discharge, but the index to it was 4·0; therefore she was treated with a stock trivalent gonococcal vaccine in doses of from 5,000,000 to 10,000,000 at intervals of seven days. Three doses were given. The arthritis entirely subsided and she was discharged cured at the end of a month.

CASE 2.—The patient, a female, aged 30 years, married, had suffered from multiple arthritis for three weeks. The gonococcus was isolated from the urethra. The patient was treated with trivalent stock vaccine. She received three doses of 5,000,000, 5,000,000, and 7,500,000 respectively at intervals of six days. She was discharged cured, and when seen three weeks later was quite well.

CASE 3.—The patient was a male, aged 36 years. First attack of gonorrhœa. Two months later arthritis followed, and when the patient was seen it had existed two months. Many joints in the body were affected. The gonococcus was isolated from the urethra and the patient was vaccinated with a vaccine prepared from his own gonococcus. Four doses varying from 5,000,000 to 25,000,000 were given at *intervals of six days. He was discharged cured, and when* seen three weeks later was quite well.

CASE 4.—A male, aged 26 years. First attack of gonor- [illegible] the urethra and a vaccine was prepared. Owing to the number of generations that elapsed before the gonococcus was isolated in a state of purity larger doses than usual were employed. The patient received three doses of 100,000,000, 100,000,000, and 200,000,000 respectively at intervals of 12 days. The opsonic index varied during this period from 0·7 to 3·6. The arthritis entirely disappeared in five [illegible]

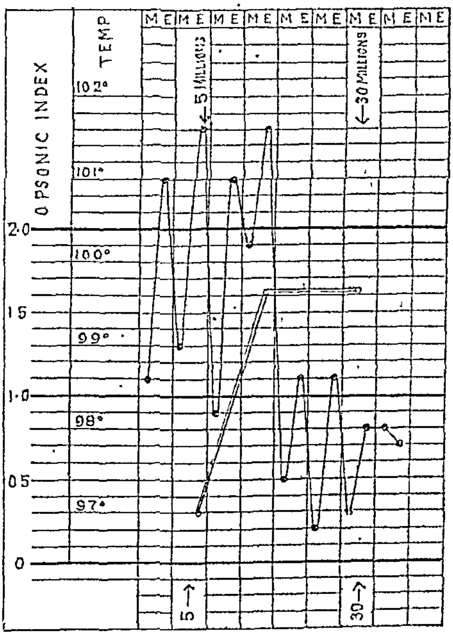
CASE [illegible] ears, seen with I[illegible], had five weeks before we first saw her begun to suffer from pains and swelling in many joints. Remedies for gout were tried but did not relieve. The ears and the bridge of the nose became swollen and double conjunctivitis supervened, followed at the end of four weeks by severe cystitis, with blood and pus in the urine, and high temperature and pain over the bladder and both kidneys. When first seen by us she was very ill with cystitis and double pyelitis, vomiting, rapid pulse, and high temperature. She was so ill that it was thought likely that she would die. *Bacillus coli communis* was isolated from the urine and a vaccine was prepared, the index to the organism being 0·35. A 5,000,000 dose of the vaccine from her own *Bacillus coli communis* was followed by a rise of the index to 1·6. Four days later a dose of 30,000,000 was injected, followed after ten days by a dose of 250,000,000. Improvement began directly after the first injection. The patient made an uninterrupted recovery, and when we saw her a year later there had been no return of the trouble. The range of temperature is well shown on the accompanying chart. (Chart 1)

CASE 6.—The patient, aged 26 years, seen on March 18th, 1909, with Inspector-General J. J. Dennis, R.N., had had enteric fever from Christmas, 1908, to the middle of February, 1909. From Feb. 15th to 25th the temperature had been normal; then high evening and low morning temperatures suggestive of pus prevailed, and had continued ever since. On March 15th pus appeared in the urine and the right kidney became tender. *Bacillus coli communis* and *Staphylococcus albus* were found in the urine, and vaccines of each were prepared. The index was 1·45 to *Bacillus coli communis* and 0·44 to the *Staphylococcus albus*. A dose of 5,000,000 of the patient's own *Bacillus coli communis* vaccine was injected on March 20th. By March 23rd the temperature had become normal, and another dose of 5,000,000 was given, and a dose of *Staphylococcus albus* vaccine of 100,000,000. On March 29th there was still some pus in the urine and a dose of 100,000,000 *Staphylococcus albus* vaccine was given, and on March 31st a dose of 10,000,000 *Bacillus coli communis* vaccine was given. No further treatment was necessary, and the patient has remained quite well and has gained much weight.

CASE 7.—The patient, a woman, aged 84 years, seen on July 6th, 1908, with Dr. H. Sharman, had had a few weeks previously slight left hemiplegia, since when cystitis had slowly developed. *Bacillus coli communis* was isolated from the urine and a vaccine was prepared. Three doses of vaccine from her own *Bacillus coli communis* were given—viz., 2,000,000 on July 9th, 5,000,000 on the 13th, and 10,000,000 on the 20th. No other treatment was adopted. By the 23rd she was well enough to get up and she made an uninterrupted recovery.

CASE 8.—The patient, an unmarried woman, aged 30 years, was admitted into Guy's Hospital for pain over the right kidney region and severe cystitis of eight months' duration. *Bacillus coli communis* was isolated from the urine, a vaccine was prepared, and three doses of 5,000,000, 5,000,000, and 10,000,000 respectively were injected at intervals of six days. The pain subsided after the first injection, and the pus in the urine disappeared entirely after the third injection. The patient was discharged cured.

CHART 1.



Case 5. Bacillus coli infection. Temperature raised for five weeks before this chart begins. The double line denotes the opsonic index.

CASE 9.—The patient, a woman, aged 40 years, seen with Dr. H. W. Armstead, had been first seen by one of us in 1907 for left renal calculus. This had so destroyed the kidney that on consultation with Mr. A. A. Bowlby it was found necessary to remove the whole organ. The patient improved much after operation, but some time subsequently she began to suffer from recurrent attacks of pain in the right kidney, associated with pyrexia. She was seen on Feb. 18th, 1909, for these symptoms. There was no pus in the urine, but it contained large numbers of *Bacillus coli communis*, whilst the index to the organism was 0·6. She has been repeatedly vaccinated with large doses of a stock vaccine and small doses of a vaccine from her own bacilli, but without any marked improvement. She refuses to be x rayed and will not entertain the idea of another operation.

CASE 10.—A man, aged 50 years, was admitted for severe aortic and mitral disease. He also suffered from retention of urine due to stricture. For this catheters had been used, and he had cystitis. *Bacillus coli communis* was isolated from the urine. Two doses of 5,000,000 of vaccine prepared from this bacillus were given at intervals of seven days. There was no improvement in the cystitis and he died from his heart disease six days after the last injection.

B. *Alimentary System.*

CASE 11.—The patient, a married woman, aged 38 years, seen with Dr. C. S. Pantin on March 18th, 1908, had had every three weeks for the last eight months attacks lasting three days and consisting of nausea, heartburn, and a severe feeling of illness with shivering and slight rise of temperature which quite incapacitated her. During an attack she was always very constipated. Since the attacks began she had lost much flesh. She had seen several medical men and duodenal ulcer and atonic dilatation of the stomach had both been diagnosed at different times, but no benefit followed treatment for these conditions. It was found that washings of the stomach contained numbers of *Bacillus coli communis* and no other organisms. From her own *Bacillus coli communis* a vaccine was prepared. It was administered at intervals of about 12 days in doses gradually increasing from 5,000,000 to 50,000,000 until Sept. 7th, 1908, when she was seen again. Her weight had increased from 7 stones 9 pounds to 8 stones 10½ pounds. She looked so well that she was hardly recognisable. She had a good appetite and she felt well. Her attacks were now very slight and infrequent. A washing from the stomach revealed the presence of *Bacillus coli communis*, but only in very small numbers. She was seen again on April 19th, 1909. She then looked well, had maintained her weight, and had had no further attacks, but she suffered, as she had for many years, from some discomfort due to a right floating kidney.

CASE 12.—The patient, a boy, aged 12 years, seen on Oct. 17th, 1908, with Dr. James Smith, had suffered from ulcerative colitis for four years, passing blood and mucus and having pyrexia, pain, and tenderness. No treatment had done any permanent good. *Bacillus coli communis* was isolated from the fæces. The patient was vaccinated with a vaccine prepared from this; he had doses varying from 5,000,000 to 50,000,000 at average intervals of a week for three months. At the same time he was given two pints of soured milk prepared with lacto-bacilline and small doses of cyllin three times a day. The improvement was immediate and rapid. An examination on Jan. 11th last showed that the atypical *Bacillus coli communis* previously found had now disappeared from the fæces. The boy is now (May, 1909) perfectly well and has been so for many months.

CASE 13.—The patient, a male, aged 30 years, seen on Nov. 6th, 1907, with Dr. W. W. Shackleton, had had for five weeks severe diarrhœa with much blood. He was very blanched. He was treated with light diet, and astringent injections were thrown high up into the large bowel. He got much better, but in March, 1908, the old symptoms returned and continued until July 9th, when he was seen again. An examination with the sigmoidoscope showed the whole mucous membrane to be intensely injected. A *Bacillus coli communis* was isolated from the fæces and a vaccine was prepared. A dose of 5,000,000 was given on July 18th, 5,000,000 on the 21st, 10,000,000 on the 31st, and 5,000,000 on August 18th. The patient then discontinued the treatment, his symptoms being improved, but they returned in October. Four doses were then given at fortnightly intervals, the patient again recovered, and when last heard of (May, 1909) was quite well.

CASE 14.—The patient, a male, aged 17 years, seen on May 16th, 1908, with Sir William Allchin and Dr. E. H. Lendon, had had severe ulcerative colitis for many months, passing mucus and much blood. He was very ill and was confined to bed. *Bacillus coli communis* was isolated from the fæces and a vaccine was prepared. He was given small initial doses, rapidly increased to 50,000,000, at fortnightly intervals. He gradually improved. The vaccine treatment was continued until last March, although in February he was well, the diarrhœa and passage of blood and mucus having ceased for a long while, he had gained weight, and was able to go to his work. He is now (May, 1909) perfectly well.

C. *Empyemata and Subdiaphragmatic Abscesses.*

CASE 15.—The patient, a tall man, seen with Dr. J. H. E. Brock and Dr. F. K. Holman, who met him at Tilbury Docks on his arrival from India, was a mere skeleton, weighing 5½ stones, and was so ill and weak that it was doubtful if he would reach his home at Hampstead alive. I (W. H. W.) saw him a day or two afterwards; he had a hectic temperature, was coughing up considerably over a pint of blood and pus like anchovy paste in the 24 hours, and his pulse was feeble and rapid. I was asked to decide whether or not the abscess should be drained, and I gave it as my opinion that the patient was so ill that he stood a better chance of recovery without than with a severe operation. In coming to this opinion I was influenced not only by his extreme weakness but also by the fact that examination did not give any clue as to the seat of the abscess, and therefore it might have been a tedious operation to find it, and the amount of blood in the expectoration suggested that incising the abscess might lead to serious hæmorrhage. We accordingly put the patient by a wide-open window and fed him up. Slowly his temperature fell, the expectoration diminished, and he gained weight. After about a couple of months he was able to travel and spent some months continuing the open-air cure in various seaside places in Devon and Cornwall. Six months after he landed in England he was unrecognisable; he had doubled his weight, but the expectoration was still about four ounces a day of pus like anchovy paste. This was examined and was found to contain *Streptococcus pyogenes longus*. We prepared a vaccine, and on Feb 15th a dose of 10,000,000 was given, on the 19th one of 50,000,000, on March 7th one of 50,000,000, and on the 27th one of 100,000,000, the dosage being checked by observations of the opsonic index. Under this treatment the expectoration ceased. The patient when last seen, a year after his arrival in England, had, so far as could be made out, nothing the matter with him. There was no expectoration. His weight was 12½ stones—that is, 7 stones more than on arrival; he looked perfectly well and could walk up hills with ease. An examination of the chest with the x rays, made by Dr. A. C. Jordan, showed that the completeness of the cure was remarkable. The right lung showed no evidence of having had immense quantities of pus (the patient calculated it was 15 gallons since his arrival in England) coughed through it. The right wing of the diaphragm was two inches higher than the left, and its excursion, though excellent, was only half that of the left.

CASE 16.—The patient, an old man suffering from mental disorder, seen with Mr. R. W. Prentice, had had pneumonia four months previously. Since then he had had a hectic temperature and had been coughing up pus; he had physical signs at the right base. He would not hear of any operation, and, considering his age and his mental condition, we were not sorry. We cultivated *Streptococcus lanceolatus* from the expectoration and prepared a vaccine. In six weeks two injections of 5,000,000, three of 10,000,000, and one of 50,000,000 were given. He improved greatly under this treatment; his expectoration ceased, his temperature became normal, and he gained weight. When heard of nine months after he was first seen he remained well.

CASE 17.—The patient, a man, aged 60 years, seen in consultation with Mr. W. Arbuthnot Lane, was short-circuited by him for a duodenal ulcer on Dec. 26th, 1908. Two days after the operation he vomited much blood, apparently from the ulcer; some got down into his lungs. Signs of pneumonia appeared at the base of the left lung. He coughed up some pus soon after. His temperature remained raised and he coughed up pus during the last three weeks of January. On Jan. 29th *Staphylococcus aureus* and *Streptococcus longus* were found in the expectoration, and a vaccine was made from each. On Feb. 5th he received a dose of 5,000,000 streptococci, and on the 8th 5,000,000 streptococci and 10,000,000 staphylococci. He then went to Bournemouth, under the care of Dr. G. Muspratt, and on Feb. 13th had 10,000,000 streptococci and on the 16th 25,000,000 staphylococci. Directly the vaccine treatment was commenced he began to improve. His temperature slowly fell, his expectoration quickly ceased, and he was soon able to walk about. He is now (May, 1909) quite well and hard at work.

CASE 18.—The patient, a female, aged 35 years, had (following a gastric ulcer) a subdiaphragmatic abscess which was drained. *Streptococcus longus* was cultivated from the pus, a vaccine was prepared, the patient had two injections of 5,000,000, and did uninterruptedly well.

CASE 19.—The patient, a female, aged 21 years, was admitted to hospital for perforated gastric ulcer. An operation was performe[illegible] of a subdiaphrag[illegible] and a few hours [illegible] she vomited a quantity of pus. Her temperature came down but soon began to go up again, and pus was discharged by the bowel. From this the *Streptococcus longus* was isolated. A vaccine was prepared from it. After three doses of 5,000,000 each the temperature became normal and the patient was discharged cured.

CASE 20.—The patient, a female, aged 34 years, was admitted to hospital on Sept. 30th, 1908, for expectoration of pus. She had had pneumonia a month previously. Physical signs and the x rays revealed an empyema in the right chest in front, extending from the second to the fourth ribs. From the pus she expectorated *Bacillus coli communis*, *Staphylococcus aureus* and the pneumococcus were isolated. Her opsonic index to the colon bacillus was 0·43, to the staphylococcus 1·024, and to the pneumococcus 2·42. Vaccines were prepared from all three, but as the index was normal to the staphylococcus and raised for the pneumococcus the *Bacillus coli communis* vaccine was the only one used. Four doses—viz., 2,000,000, 8,000,000, 20,000,000, and 25,000,000—were given at intervals of a week to ten days. The temperature had been considerably raised for some weeks, but after the first injection it began to fall. After the third it was normal and remained so till her discharge. The expectoration entirely ceased and she gained 2 stones in weight. The index to the staphylococcus and pneumococcus was taken several times and remained constant; the index to the colon bacillus was raised as a result of the injections. The physical signs improved and an x ray picture taken before her discharge showed great shrinkage of the cavity of the empyema. During most of her stay in the hospital she was on the open-air balcony day and night.

CASE 21.—The patient, a boy, aged nine years, was admitted to hospital for double empyema following double pneumonia. The right empyema was opened on Feb. 6th and the left, after two aspirations, on March 9th. A vaccine was prepared from the pneumococcus present in the pus, and two doses of 5,000,000 and two of 10,000,000 were administered at intervals of seven days. The boy made an uninterrupted and rapid recovery, gained much in weight, and was discharged cured with the wounds perfectly healed.

CASE 22.—The patient, a man aged 39 years, was operated on early in Septemb[illegible] the right side. Two pins of pus [illegible] to be doing well and the woun[illegible] of September the temperature began to rise and continued hectic until Nov. 2nd, when he was first seen by us. The x rays and physical signs showed an empyema near the spine at the eighth rib on the right side. Leucocytosis 25,000. Sir Alfred Fripp drained this empyema, letting out a few ounces of pus on Dec. 15th. *Staphylococcus aureus* and *Bacillus coli communis* were obtained from the pus. V[illegible] of each were prepared and injections varying from [illegible] to [illegible]als of a week for three months. Although the patient went to the seaside he has not improved much; there is still some discharge from the wound now (May, 1909), he has only gained a little weight, but his temperature is consistently lower although not normal. He is pale and anæmic. There are no tubercle bacilli in the sputum.

D. *Miscellaneous.*

CASE 23.—The patient, a female, seen with Dr. John Wood, had suffered for a long while from furunculosis, many boils appearing in various parts of the body. A *Staphylococcus aureus* was isolated from one of the boils. A vaccine was prepared and doses of from 50,000,000 to 100,000,000 were administered. The boils became fewer and less severe, but the improvement was not great, therefore three months after the treatment began a dose of 50,000,000 was followed three days later by a dose of 100,000,000. This produced a rise in the opsonic index to 2·5, accompanied by a rapid disappearance of the last of the boils and striking general improvement in her health.

C[illegible] years, was seen with Dr [illegible] consultation with a su[illegible]mental hernia. His temperature was raised and the swelling was very tender. No organisms could be isolated from the blood, and as it was not deemed advisable to operate the patient's opsonic index to several micro-organisms was estimated, and as that to staphylococcus was low a stock vaccine of *Staphylococcus aureus* was injected. Doses of 5,000,000 and 10,000,000 were given in June, and in 18 days his temperature became normal, the swelling and tenderness had quite disappeared, and the patient got completely well.

CASE 25.—The patient, a female, aged 45 years, seen with Dr. N. J. McCaskie for severe osteo-arthritis affecting nearly every joint in her body and rendering her almost helpless, had over the sacrum a sinus which was several inches [illegible] It had resulted from pressure [illegible] The pus was found to contain [illegible] opsonic index to this organism varied between 0·5 and 2·0. A vaccine was prepared. Five injections of it were given in doses of from 5,000,000 to 50,000,000 at intervals of about a week. The sinus was syringed out with peroxide, the pus gradually ceased to be discharged, and the sore improved in every way.

CASE 26.—The patient, a married woman, aged 27 years, was confined on April 11th, and was first seen by us on the 25th for general septicæmia and septic pneumonia. Cultivations from the vaginal discharge and also from the sputum showed the presence of *Bacillus coli communis* and pneumo[illegible] appeared to be dying. Fourteen days after the first injection the temperature had become normal.

CASE 27.—The patient, a married woman, aged 30 years, was confined on May 22nd. She had a rigor with a temperature of 104° F. on the 25th. Thereafter the temperature fluctuated between 99° and 104° with frequent rigors until first seen on June 23rd when acute nephritis with bloody urine was present. A catheter specimen of urine grew *Staphylococcus aureus* only, and as the index to that organism was only 0·35 two doses of a vaccine prepared from this particular strain were injected. The index rose to 1·5, but the clinical condition remained unaltered. In the meantime *Bacillus coli communis* had been isolated from the vaginal discharge and a vaccine prepared. On July 2nd and 5th 5,000,000, on the 7th 2,000,000, and on the 10th 10,000,000 of coli vaccine were injected. The response was immediate and by July 12th the temperature had returned to normal, and the patient made an uninterrupted recovery and now a year since remains in excellent health.

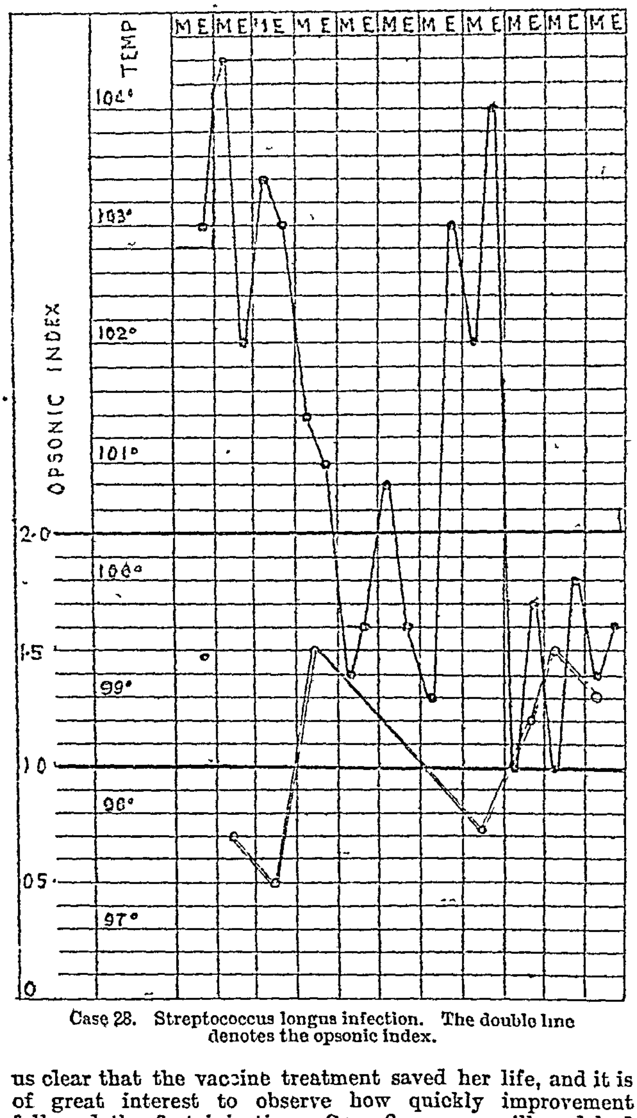
CASE 28.—The patient was a married woman, aged 20 years. This was a severe case of puerperal septicæmia. She was confined on Dec. 7th. She had a rigor on the 9th. On the following day the uterus was cleared out under an anæsthetic. On the next day large numbers of streptococci were found in the blood. Antistreptococcic serum was administered but proved useless. A vaccine was therefore [illegible] of the [illegible] at the [illegible] 100° F. [illegible]cci had [illegible]fection now remaining was a definite area of parametritis in the right fornix. Three days later the temperature again rose, and there were definite signs of septic pneumonia; no pus could be detected; the patient's strength gradually failed and she died. (See Chart 2.)

CASE 29.—The patient, a muscular young man, aged 27 years, had suffered for many years from acne pustulosa, which when he was first seen in May, 1903, completely covered the chest and neck. The face was but little affected. *Staphylococcus albus* was isolated from the pustules and a vaccine was prepared from it. During the next two months six doses of vaccine, commencing with 200,000,000 and gradually increasing to 1,000,000,000 were administered. The response to these injections was most striking, and when the patient left England in the beginning of July the chest was completely clear, the back practically clear, and all of the scar tissues remaining from previous attacks were clearly undergoing absorption.

Summarising Remarks.

It will be seen that the first four of the cases of disease of the genito-urinary system were examples of gonorrhœal arthritis, and when we remember how intractable this complaint usually is it will, we are sure, be conceded that our cases did exceedingly well with vaccine treatment The benefit which followed was so rapid that it was difficult to doubt that it was due to the vaccine. In the remaining six cases of genito-urinary infection the *Bacillus coli communis* was found in the urine. In Case 5 the patient was desperately ill when seen, and had been ill so long that it appeared to us clear that the vaccine treatment saved her life, and it is of great interest to observe how quickly improvement followed the first injection. Case 6 was very ill, and had had considerable pyrexia for over three weeks; yet two days after the first injection of coli vaccine the temperature was normal. He was treated with vaccines prepared from both micro-organisms found in his urine, but the *Bacillus coli communis* was probably the more active for harm, for it was after the injection of this that the temperature at once fell. Case 7 was a mild case of cystitis, but it is of interest that she benefited in spite of her extreme age. Case 8 did extremely well in spite of the long duration of the cystitis. In Cases 9 and 10 the vaccine treatment appeared to do no good. Why this was so in Case 9 is not quite clear, but it is to be noted that although her urine contained enormous quantities of the colon bacillus there was no pus, so that she can hardly be said to have had cystitis or pyelitis in the ordinary sense of the terms. Case 10 was so ill from his heart disease that he died before any conclusions could be drawn as to the efficacy of the treatment. Therefore out of ten genito-urinary cases in the four due to the gonococcus the improvement was rapid after vaccine treatment, and of six in which *Bacillus coli communis* was the cause of the symptoms from which the patient suffered four did extremely well, and in two cases (viz., 5 and 6) the treatment in our opinion saved the patient's life.

CHART 2.



Case 28. Streptococcus longus infection. The double line denotes the opsonic index.

Turning next to the alimentary cases, Case 11, in which the severe attacks of dyspepsia accompanied by fever were associated with and apparently due to *Bacillus coli communis* in the stomach, was very remarkable. Although an occasional colon bacillus may be found in stomach contents, yet in this patient a loopful of the stomach washing contained millions of *Bacillus coli communis* in pure culture, and it would appear that this case is an example of a hitherto unrecorded cause of severe dyspepsia. We may mention that we sought for these bacilli in another case of unusual dyspepsia, but without finding them. That they were the cause of the dyspepsia in Case 11 appears extremely likely from the fact that as the patient improved under the vaccine treatment these bacilli almost completely disappeared from the stomach contents, and that this treatment helped her very considerably appears plain; no previous treatment had benefited her at all. The remaining three gastro-intestinal cases were all examples of ulcerative colitis, in which *Bacillus coli communis* was found in the fæces. Whatever may have been the original cause of the ulcerative colitis, that this bacillus was, when we saw the patients, the actual cause of the chronic inflammation of the large bowel is highly probable, for in each case the patient's blood contained specific agglutinins, easily demonstrated in high dilutions, against the particular *Bacillus coli communis* which we recovered from the fæces and utilised in the preparation of each vaccine. Moreover, in each case the opsonic index to the *Bacillus coli communis* recovered from the fæces showed remarkable variations from day to day, ranging from 0·5 to 2·5. These three cases encourage us to hope that in the future much good may follow the treatment of this intractable disease by vaccines, especially if combined with milk soured with lacto-bacilline, and perhaps the administration of cyllin.

Eight cases fall under the heading of empyemata and subdiaphragmatic abscesses, and we are well aware that both these disorders often recover without vaccines, but in Case 15 the diminution of the expectoration, which had lasted many months, was so prompt after the giving of vaccines that it appeared to be due to them. The same was true of Cases 16 and 17, 19 and 20, and our impression derived from these eight cases is that the healing of these abscesses, usually so tedious, can often be accelerated by the administration of the appropriate vaccine. The only case in which it appeared to do no good was Case 22.

Among the miscellaneous cases only Nos. 26 and 27 call for comment. No. 26 had very severe puerperal septicæmia with a large amount of septic pneumonia. She was so near death's door before the vaccine treatment was commenced that our strong impression is that it saved her life, and the same is true of No. 27; until the vaccine treatment was adopted her temperature had been raised for six weeks and she had remained consistently very ill; after vaccination the temperature fell and she improved in every way. In all the cases recorded in this paper, unless otherwise stated, the vaccine treatment was the only special treatment adopted.

We have given brief details of each case occurring since Jan. 1st, 1908, in which we have employed vaccines, recording failures as well as successes, in order that those who are present may form their own conclusions. For our own part, we believe that in not one of these 29 cases did the vaccines do any harm, and in the great majority it appeared to us that distinct benefit followed from them; in some, indeed, they, in our opinion, saved the patient's life.

INCORPORATED INSTITUTE OF HYGIENE.—A conference on "The Medical Inspection and Treatment of School Children" will be held at the Institute of Hygiene on June 21st. It is intended specially to consider the problem of "How to deal with defective children," and it is stated that a number of prominent medical men have arranged to take part in the discussion. Sir William H Bennett, K C.V.O., will preside.

EXPERIMENTAL EVIDENCE OF THE INFECTIVE ORIGIN OF CARCINOMA

AND OF THE TRANSMISSIBILITY OF THE DISEASE FROM THE HUMAN SUBJECT TO THE MOUSE.

By W. FORD ROBERTSON, M.D. EDIN.

MANY experiments have been made with the object of ascertaining whether carcinoma can be transferred from the human subject to the lower animals. The general opinion is that these experiments have failed to furnish any positive evidence, although there are some records of positive results that the observers themselves certainly believed to be genuine. In 1900 Gaylord[1] asserted that in six animals (rabbits and guinea-pigs) he had succeeded in producing carcinomatous lesions by the injection of carcinomatous material from the human subject, and two years later[2] he recorded the production of multiple carcinomatous nodules in the liver of a dog as the result of the injection of peritoneal fluid from a case of malignant peritonitis. In 1902 Mayet[3] stated that in 53 white rats injected with glycerine extract of a cancer of the human breast he had obtained four lesions that were certainly cancerous and eight that were probably of the same nature.

It is possible that past failures to obtain satisfactory evidence of the transmissibility of carcinoma, apart from mere grafting of tumours upon an animal of the same species, have been due simply to the fact that the methods employed were not suitable. It may, for example, be essential to introduce the supposed protozoan organisms at a particular phase in their life cycle and in large numbers. This, in fact, is the hypothesis that I endeavoured to test in carrying out the experiments, some of the results of which I wish to record briefly in this paper.

The material used for the purposes of the experiments was kindly supplied to me by Dr. William Russell in August, 1907. It consisted of about 300 cubic centimetres of fluid from the pleural cavity of a woman suffering from malignant pleurisy, secondary to mammary carcinoma, and of about [illegible] a [illegible] ed [illegible]

The experiments were carried out upon mice and have been fully controlled by the observation of a much larger number of animals of the same stock kept under similar conditions. During the past three years this stock has consisted of from 60 to 80 mice, among which there has always been a considerable proportion of aged animals. None of these mice have developed external tumours. I have examined over 60 mice that have either died in the course of being subjected to ordinary virulence tests, or have been found dead in their cages, and I have not been able to observe any internal carcinomatous lesions. Among these animals a sufficient number to form a satisfactory control series were of ages not less than those of the mice upon which the experiments were made. Three separate experiments were carried out.

Experiment 1.—Six mice were each injected in the abdominal wall with about one cubic centimetre of the fluid (incubated for about two months) from the case of malignant peritonitis. The results of the experiment were negative as regards the development of tumours.

Experiment 2.—Five mice (a mother and four suckling young) were fed on one occasion with about five cubic centimetres of similar fluid from the case of malignant peritonitis. The results of this experiment were also negative.

Experiment 3.—30 mice of ages ranging from three to 12 months were fed with about 20 cubic centimetres of the fluid from the pleural cavity of the case of malignant pleurisy. This fluid had been incubated at 37° C. for seven weeks. On the following day they were similarly given fluid (incubated for about nine weeks) from the case of malignant peritonitis. In the course of the succeeding five to 14 months seven of these mice developed carcinomatous tumours—namely, three of the mammary gland, two of the lung, one of the testicle, and one of the uterus. In addition to these tumours there were, in two other cases, fatal lesions of the stomach and liver, which were probably, but not certainly, malignant growths. Another mouse, one of 13 young born in the cages in the course of this experiment, also developed a large carcinoma of the breast which caused its death.

Mouse No. 1.—A small tumour was observed in the flank five months after the feeding. It grew rapidly and the animal died one month later. The tumour measured 23 millimetres in diameter. It has the structure of an adeno-carcinoma (Fig. 1).

Mouse No. 2.—A tumour was observed in the left breast ten months after the feeding. It rapidly increased in size and the animal died two months later. The tumour was 25 millimetres in diameter. It has also the structure of an adeno-carcinoma but is denser than the preceding (Fig. 2).

Mouse No. 3.—The animal died a little more than a year after the commencement of the experiment. Some weeks previously a small tumour of the breast was observed. On the death of the animal this tumour measured 12 millimetres in diameter. It also has the structure of an adeno-carcinoma (Fig. 3).

Mouse No. 4.—The animal died about nine months after the commencement of the experiment. On examination there was found a firm whitish nodule projecting slightly from the anterior surface of the right lung. This nodule measured 4·5 millimetres in diameter. It is composed of large epithelial cells (Fig. 4), which at the margin can be seen to be invading the neighbouring lung tissue.

Mouse No. 5.—This mouse died nearly 14 months after the feeding. A dense whitish nodule, measuring 6·5 millimetres in diameter, was found in the right lung. This growth consists of large epithelial cells arranged for the most part in columns (Fig. 5). It presents evidence of rapidly infiltrating the neighbouring lung tissue.

Mouse No. 6.—The animal died 11 months after the commencement of the experiment. It was found to have a large solid tumour of the right testicle, measuring 14 millimetres in diameter. This had evidently pressed upon the large intestine and caused obstruction. The tumour consists throughout of large epithelial cells (Fig. 6).

Mouse No. 7.—This animal was killed ten weeks after the commencement of the experiment when it seemed moribund. For some days previously it had been observed to be ill and the abdomen was much swollen. On post-mortem examination there was found to be very great general increase of the subperitoneal fat. Both horns of the uterus were much thickened, being at least 12 times the diameter of the normal organ. On microscopical examination the muscular and submucous coats are seen to be greatly thickened. The latter is extended in the form of numerous polypoid projections covered by proliferating surface epithelium. Throughout the submucosa there are larger or smaller masses of epithelial cells, for the most part presenting a glandular arrangement. Some may be inclined to regard the lesion in this case as simply an endometritis. For my own part, on account of the irregularity and evident rapidity of the epithelial proliferation, the occurrence of local invasion of the muscular coat, and the absence of inflammatory exudation, I am satisfied that the condition is carcinomatous.

The mammary tumour which developed in the young mouse born in one of the cages some months after the commencement of this experiment is 15 millimetres in diameter, and has the histological characters of an adeno-carcinoma. This tumour is not included in the positive cases.

In this experiment seven out of 30 mice developed carcinomatous tumours. As the control animals have not shown any similar tumours, and as the only difference in the treatment of the two series was that the 30 mice were fed with incubated carcinomatous material from the human subject, I infer that the epithelial tumours were determined by some agent contained in this carcinomatous material. As none of the 11 animals injected or fed with the fluid from the case of malignant peritonitis developed carcinomatous growths, it seems probable that this agent was contained in the fluid from the case of malignant pleurisy. It was certainly unfortunate that in the third experiment the animals were fed with material from both cases of human

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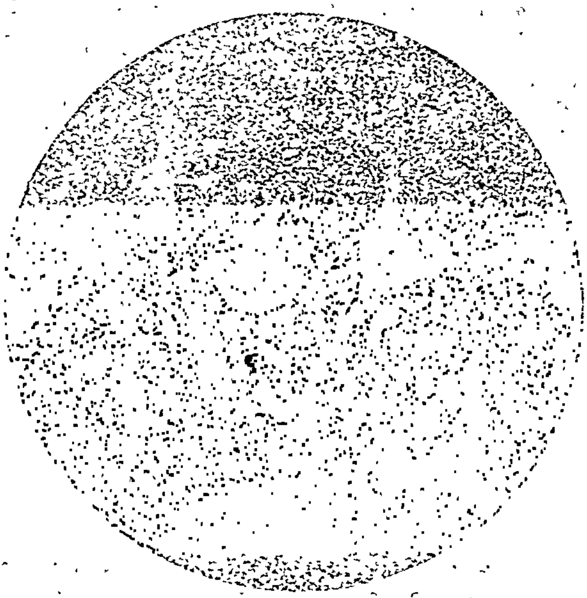

FIG. 1.—Section of tumour of mouse No. 1. × 50.

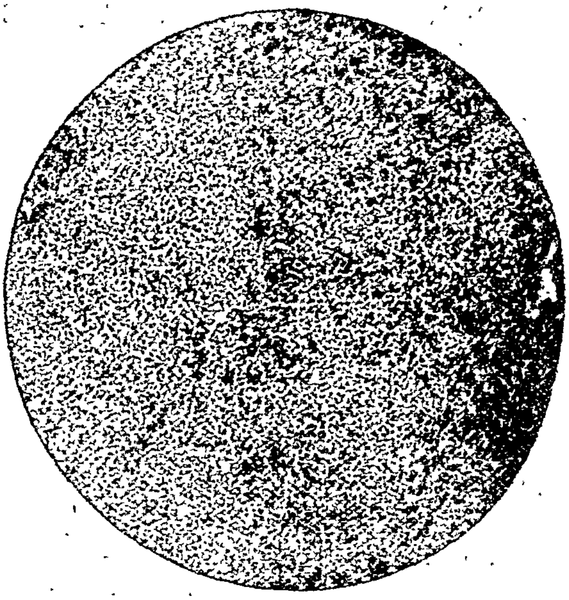

FIG. 2.—Section of tumour of mouse No. 2. × 50.

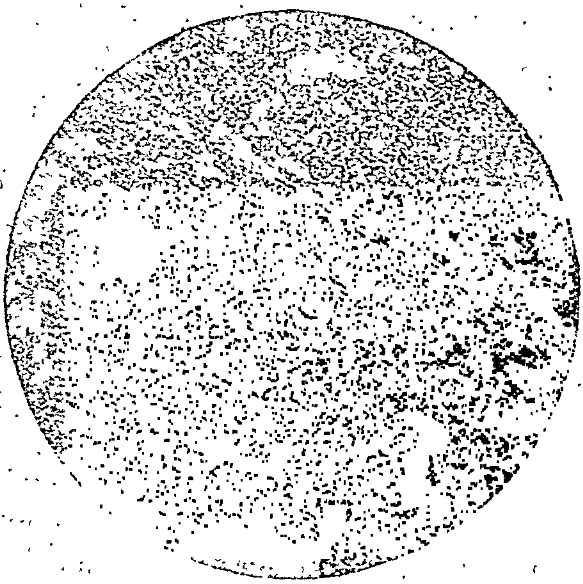

FIG. 3.—Section of tumour of mouse No. 3. × 50.

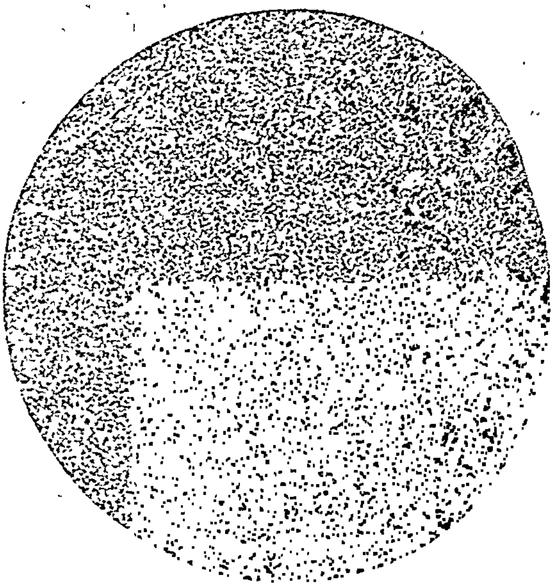

FIG. 4.—Section of tumour of mouse No. 4. × 50.

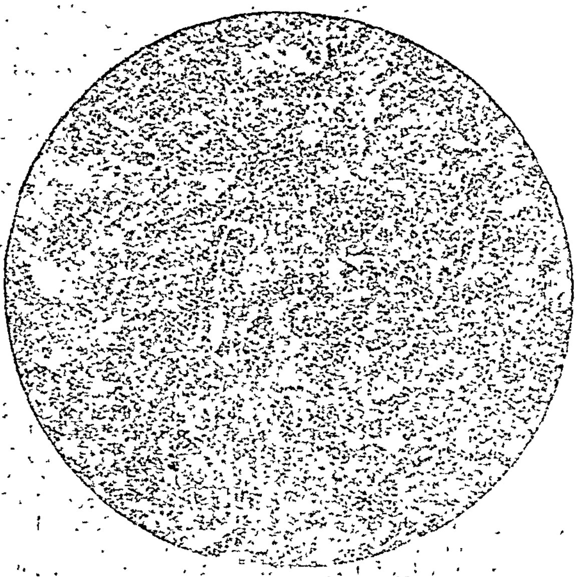

FIG. 5.—Section of tumour of mouse No. 5. × 50.

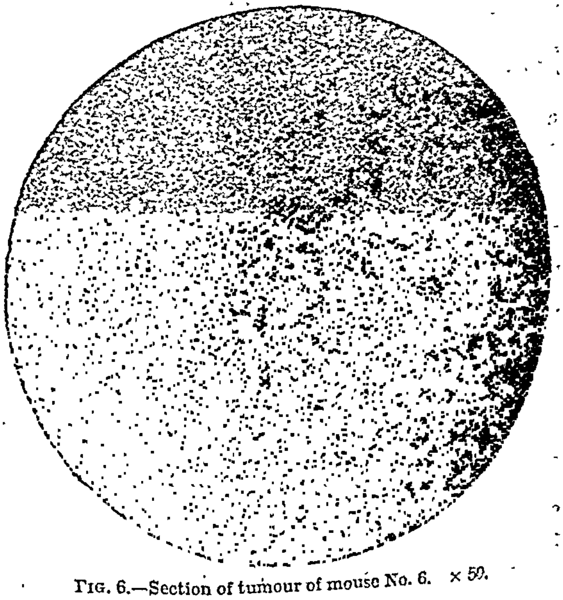

FIG. 6.—Section of tumour of mouse No. 6. × 50.

carcinoma. But this circumstance cannot to any great extent detract from the significance of the results. These three experiments were meant to be merely of a preliminary nature. It was my intention to make other observations with similar material incubated for various periods. But until quite recently I have been unable to obtain any further supply of carcinomatous fluid. Many more experiments of a similar kind are needed, and it is largely with the purpose of commending such work to others who have the necessary time and facilities, which I have not, that these initial observations are now recorded. There is probably for the production of tumours an optimum period of incubation of the carcinomatous fluid, and this will, I think, be found to be shorter than the time in my experiments.

On the ground of the experimental results that I have recorded it could, I think with good reason, be contended that the pathogenic agent transferred from the human subject to the mouse was not merely a chemical substance but must have been a living virus. This contention has, however, a still stronger support. It is borne out by abundant evidence of a direct character. From one of the mammary tumours occurring in these mice I made several cultures upon non-nutrient agar-gelatin, similar to those described some years ago in a paper by Dr. Henry Wade and myself.[4] These cultures have been studied in section by means of the ammonio-silver process by Dr. M. O. W. Young, who has been able to demonstrate in them certain morphologically characteristic forms identical with those already observed by us in malignant tumours from the human subject and more recently in one of the original Jensen mouse tumours. Some of these forms have also been demonstrated in these experimental tumours, as well as in a mammary tumour produced in a previously healthy mouse by inoculation of one of these growths. Our more recent observations, some of the results of which were demonstrated on Feb. 26th at a meeting of the Edinburgh branch of the British Medical Association, lead to the conclusion that a group of protozoan organisms, to be classed among the mycetozoa and including very numerous pathogenic species, is associated with tumour growth, just as very numerous pathogenic species of schizomycetes are associated with inflammation. The main phases in a complicated life cycle have now been demonstrated in sections of tumours, in sections of agar cultures from tumours, and in films of the centrifuge deposit from fluid from cases of malignant pleurisy secondary to carcinoma of the breast. The phases recognised include forms with flagella, sporoblasts and their residua, nucleated forms, some of which have been observed in mitosis, and certain other remarkable bodies of characteristic appearance which almost certainly represent gametes.

Edinburgh.

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[4] THE LANCET, Jan. 28th, 1905, p 215.

A NOTE ON

THE RECURRENCE OF VESICAL CALCULI AFTER REMOVAL IN A SERIES OF 160 OPERATIONS.

BY F. A. SOUTHAM, M B. OXON., F.R.C.S. ENG.,
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HAVING recently performed lithotrity (or litholapaxy, as the operation is now termed) for the sixth time within a period of 16 years upon the same patient, a male, now aged 76 years, the frequent recurrence of the calculi in the bladder naturally suggests the question whether their presence there has been due to the descent of more calculi from the kidney or to small fragments left in the bladder after operation, either of which may form the nuclei of fresh vesical calculi.

In this case the patient had undergone the operation of perineal (lateral) lithotomy for the removal of a stone 15 years before he came under my care for the first crushing [illegible] from [illegible] per- [illegible] als of one year, ten years, two years, three years, and one year, the calculi consisting of uric acid, and in each instance being considerably under an inch in diameter. As the first crushing operation occurred 15 years after a calculus had been removed by lithotomy, there must on the first recurrence have certainly been a descent of a fresh calculus from the kidney; and, as an interval of ten years elapsed between the second and third crushings, it is not probable that a fragment left after the second crushing operation formed the nucleus of the stone removed so many years subsequently. It would appear, therefore, that provided the bladder is thoroughly cleared of the fragments, as is now possible owing to the improvements during recent years in the technique of the crushing operation, a recurrence after lithotrity is generally due to the descent of a fresh calculus from the kidney.

The tendency to a recurring formation of calculi in the kidney was well illustrated in the case of a patient, aged 20 years, upon whom I performed lithotrity some years ago, for he brought with him a collection of 41 uric acid calculi, some measuring a quarter of an inch in diameter, which he had from time to time previously passed per urethram. In six patients I have twice performed lithotomy, and in one of these the calculus again recurred, necessitating a further operation. In two other patients, after removing calculi from the bladder I subsequently performed nephro-lithotomy, on [illegible] the [illegible] ca[illegible] after a cutting as after a crushing operation; in fact, in my experience it has been practically the same—viz., 7 per cent.

Summary of 160 Operations for Calculus Vesicæ.

—	Nature of operation	No. of operations.	No. of patients.	No. of patients in whom calculi recurred.	Percentage of recurrences.
Males	Lithotrity	61	56	4	7·1
	Lithotomy	89	83	6	7·2
Females	Vaginal lithotomy ...	1	1	0	—
	Dilatation of urethra	9	9	0	—

In ten male patients the calculi recurred after operation—viz., in four after lithotrity and in six after lithotomy (17 lateral and 72 suprapubic operations). One patient (already mentioned) was operated upon six times, another patient four times, and the remaining patients each twice. The longest interval between any two successive operations was 19 years, this period intervening between the operations of lateral and suprapubic lithotomy performed upon a patient aged 53 years at the first operation, and 72 years at the second. Of the patients in whom a recurrence took place, one was in his fiftieth year and the others were all over 56 years of age when the first operation was performed; four patients were aged respectively 72, 72, 76, and 79 years.

No instance of recurrence was met with in younger subjects, of whom 27 were under ten years of age, and of these 14 were treated by lithotrity.

From a consideration of the results in my series of cases, it would therefore appear that a recurrence of calculi after operation is relatively not more common after lithotrity than after lithotomy, and when it does take place it is in both instances probably due to the descent of a fresh calculus from the kidney and its retention in the bladder. The percentage of recurrences after lithotrity given in the above summary—viz, 7·1 per cent.—is somewhat less than that of other surgeons. Sir H. Thompson[1] met with a recurrence in 75 patients out of a total of 600 cases = 12·5 per cent.; Cadge[2] in 18 patients out of a total of 133 cases = 13·6 per cent.; and R. Harrison[3] in 23 patients out of a total of 101 cases = 22·7 per cent. It is interesting to note that Freyer[4] in his Indian experience of lithotrity met with a recurrence in ten patients only in a series of 610 operations, which gives a much lower percentage of recurrences—viz, 1·6 per cent.

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[1] Brit. Med. Jour., July 3rd, 1886.
[2] Ibid.
[3] THE LANCET, Nov. 12th, 1898, p.
[4] The Modern Treatment of Stone in the [illegible] second edition, p. 56.

The more satisfactory results of lithotrity at the present day, as compared with those in the early years of the operation, are no doubt mainly owing to the fact that we now employ larger evacuating catheters, which enable us to remove the broken-up fragments from the bladder much more thoroughly than was formerly the custom.

Manchester.

PUSTULE SIMULATING ANTHRAX DUE TO ORGANISMS OF THE PROTEUS GROUP.

BY THOMAS ORR, M.D., B.SC. (PUB. HEALTH) GLASG.,
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So much doubt exists as to the possibility of organisms of the proteus group, in the absence of other organisms, causing pathogenic lesions in man that the following case is worth recording. The case is interesting not only on account of its rarity but also because the lesion presented characteristics indistinguishable from malignant pustule, for which it was mistaken and as such treated.

A butcher, 45 years of age, first noticed a small pimple on the back of his left thumb about the middle of the metacarpal bone. This slowly increased in size but showed no signs of suppurating. There was little or no pain felt and he did not complain of feverishness or of being ill. As little discomfort was experienced, he did not seek medical advice until about a fortnight after its first appearance and until it had much increased in size. When examined by Dr. William Craik, Thurnscoe, there was found a hard raised swelling of about the size of a shilling over the area mentioned. The top of the swelling was depressed or crateriform and was dark and necrotic in appearance. At the margin of the necrotic area was distinct vesiculation and the skin around for about a quarter of an inch was dusky red with a bluish tinge. There was no evidence of pus formation. The appearances were uncommon and at once suggested malignant pustule. On the day when seen the sore was treated by injecting a solution of carbolic acid into the centre and periphery. On the next day the necrotic part had extended and the skin was inflamed to a greater extent. A crucial incision was therefore made and salicylic acid was dusted into the wound. On the following day it was thought advisable to excise the pustule on the assumption that it was due to the anthrax bacillus. Before excision a little of the serum exuding from the previous day's incision was collected in a glass tube for bacteriological examination. Within ten days after excision a small secondary papule developed at the margin of the wound. This was incised and dusted with salicylic acid. In a few days the inflammation began to subside and the wound slowly healed.

Bacteriological Examination.

1. *Serum from incised wound.*—Films made from the serum and stained failed to show any organisms. A loopful spread on an agar plate gave a few white colonies which were found to be of *Staphylococcus albus*. The presence of these organisms was probably due to contamination from the skin owing to want of aseptic precautions in collection.

2. *Excised pustule.*—The pustule on excision was put into sterile distilled water and next day examined. Films made from the fluid exuding from the freshly cut surface of the tissue and stained showed the presence of small bacilli with rounded ends. These were found both singly and in small groups and retained the stain by Gram's method. The surface of the tissue was seared with a hot iron and incised with a sterile knife. The fluid exuding from the cut surface was spread on nutrient agar plates. After 24 hours' incubation at 37° C. there were found numerous small colonies of two different types. Both types of colonies occurred in about equal numbers and were found to be composed of Gram-staining bacilli to be described later. Sections of the tumour examined microscopically showed areas of necrosis surrounded by areas of leucocyte infiltration, the leucocytes being large mononuclears. In the zone between these areas of necrosis and infiltration were found many Gram-staining organisms. These were bacillary in form, irregular in size and in shape, many swollen at the ends or in the middle, and some large and spherical.

3 and 4. *Specimens from the secondary papule.*—Two sterile cotton-wool swabs were rubbed in the centre of the secondary papule and submitted for bacteriological examination. These two specimens were taken on different days. Agar plates were smeared with the swabs, and after 24 hours' incubation they showed two kinds of colonies (A and B) similar to those isolated from specimen 2. These also were found to be composed of small Gram-staining bacilli.

Thus, from specimens 2, 3, and 4 two kinds of organisms were isolated. In their morphological and biological characters they belong to the proteus group. Both organisms were very motile and non-sporing, and retained the stain by Gram's method. Both occurred as small slender rods with rounded ends, sometimes in chains. B was often arranged end to end in pairs and was slightly thicker than A. In old cultures both showed a variety of shapes; some of the bacilli presented irregular forms with swollen ends. On agar slopes the growths of both organisms were somewhat similar, being greyish-white and glistening or slimy, but A slightly more opaque than B. On agar plates A occurred as small greyish-white opaque glistening colonies with a regular margin; B showed colonies each of which had an opaque greyish-white centre and a thin transparent margin, the transparent margin being much broader than the opaque centre. A liquefied rapidly, a deep saucer-shaped hollow of liquefaction being found in the gelatine stab in 72 hours, while B liquefied much more slowly, in seven days a shallow cup of liquefaction being formed. Both produced acid and gas in glucose and saccharose but not in lactose broth. A corresponds in microscopical and cultural characters with *Proteus vulgaris* (Hauser), while B presents characteristics similar to *Proteus mirabilis* (Hauser) as described by Lehmann and Neumann. It would thus appear that the sore was caused by these two organisms belonging to the proteus group, *Proteus vulgaris* (Hauser) and *Proteus mirabilis* (Hauser).

Although such infection by these organisms is unusual, it should not be unexpected when the man's version of the origin of the sore is considered. He stated that he had got in his thumb some poisonous material from bags sent out by hide and refuse dealers. These, he says, are sometimes very dirty and bad-smelling. They are used again and again without cleaning, passing from one butcher to another. In [illegible] for collecting fat and bones [illegible] large numbers of organisms [illegible] are certain to be present.

Wakefield.

SUDDEN FAILURE OF RESPIRATION RESTORED BY ARTIFICIAL MEANS,

OCCURRING DURING THE COURSE OF AN ACUTE PNEUMONIA COMPLICATED BY COMA OF URÆMIC ORIGIN.

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AND
JOHN MORISON, M.B., C.M. EDIN.

THE chief points of interest in the following case are (1) the sudden failure of respiration, restored by artificial respiratory movements; and (2) the rapid progress of the fatal symptoms.

The patient was a married man aged 40 years. He gave a previous history of some bone trouble in early life which affected his left hip and knee joints and one or two ribs on the left side; probably necrosis of bone with separation and protrusion of fragments. For three days before the onset of his fatal illness he complained of headache. On the fourth day (Feb. 10th, 1909) he was seen by Dr. Morison, when he still complained of headache and sleeplessness. The temperature was 102° F., the pulse was 100 and of moderate tension, and the tongue was furred, moist, and glutinous. There was slight cough, and the respirations were increased in frequency. Examination of the chest revealed a small area of dulness at the left base, and on auscultation there were prolonged expiration and moist crepitations over the area of dulness. The urine was clear, but was not examined for albumin. At 6 A.M. on Feb. 11th the following condition was noted. The patient had a restless night, with very little sleep, and complained of severe headache. The temperature was 100° and the pulse-rate was 100. He was not at all drowsy. The urine passed during the night had been inadvertently thrown away. At 9 A.M. the patient was sleeping heavily, with an inclination to stupor, but as he had had a veronal powder (seven and a half grains) the night before little notice was taken of this. The pulse was 120 and the respirations had become more rapid. At 10 30 A.M. he was comatose; the pupils were moderately dilated, *there being neither light nor conjunctival reflex*; the respirations were laboured and over 50 per minute, and the pulse was 160, dicrotic, and the impulse sharp. There were moist sounds all over the right lung, especially at the base anteriorly. The heart showed a regular heaving apex impulse, the temperature was 106°, and the surface of the body was warm and inclined to sweat. A diagnosis of commencing pneumonia was made. The comatose condition was looked upon as being of uræmic origin, and vigorous treatment was commenced; one-thirtieth of a grain of strychnine was injected subcutaneously and oxygen was administered continuously. An ice cap was applied to the head and the surface of the body was sponged with ice-cold cloths. The temperature fell to 104° and remained at that level for some time, with a tendency to rise to 105° when sponging was relaxed. At 11.30 the respiration suddenly and unaccountably failed, the face became deeply cyanosed, and for about 20 seconds the patient remained in this condition; the pulse continued to beat vigorously, and artificial respiration was resorted to, not with any definite hope of the patient resuming breathing but more as a matter of routine and, in view of the strong cardiac action maintained for a period of seconds. After a few seconds of vigorous handling the respiration was gradually resumed and restored to its former rhythm. The temperature remained high. The patient showed no signs of improvement, so at 12 midday the median basilic vein was opened; the bleeding was not satisfactory, about 10 ounces of dark venous blood being removed. The immediate effect of the bleeding, however, was satisfactory; the patient's colour improved, his respirations became more regular and less rapid, but the coma continued. At 7 P.M. a pint and a half of blood-stained urine was removed from the bladder and when examined it was found to contain albumin in large quantity and fresh blood. The specific gravity of the urine was 1020; at this stage the respirations were about 48 and the pulse about 140. The patient continued in the same condition until about 8 P.M., when the symptoms deepened, and he gradually sank, dying at 9 o'clock on the same evening.

The case is instructive from several points of view. The rapid progress of the grave symptoms left but little time to do anything for the patient.

The question of diagnosis naturally was the most important point for immediate consideration. A patient, presumably well a few days before, is suddenly taken with an inflammatory attack, a rising temperature, rapid breathing with physical signs of pneumonia, and a rapidly advancing coma. Obviously, the pneumonia symptoms were not sufficient to account for the rapid collapse of the patient. The conditions that suggested themselves to our minds were uræmic coma, diabetic coma, or poisoning. The urine on the previous evening had been clear, no suspicion of blood being present. *Uræmic poisoning as the cause of the coma* was suggested (in addition to the blood in the urine) by the headache which had persisted for several days. The previous history of the patient, who suffered from some obscure eye troubles accompanied by headache without any obvious error of refraction, also gives support to the possibility of uræmic poisoning. It is a matter of regret that no post-mortem examination could be made in this case. The history of the case was quite unlike that of diabetic coma. The possibility of poisoning was suggested by the presence of a small bottle of chlorodyne, half emptied, in the bedroom; the condition of the pupils negatived poisoning by opium. The provisional diagnosis of pneumonia complicated by uræmic coma seems to be the most satisfactory.

The treatment resorted to undoubtedly prolonged the patient's life—oxygen relieved the cyanosis, ice reduced the temperature, and the effect of the unsatisfactory bleeding certainly supported the view that in similar and less severe cases this method of treatment is decidedly useful.

The most startling feature of the case was the sudden failure of respiration; this, in the experience of both of us, was unique. We have seen as sudden failure in anæsthesia cases, but never during the course of an acute and rapid illness such as we had to deal with. The patient was to all appearances dead when artificial respiration was resorted to, and we shall not readily forget the sudden stoppage and the slow return of respiration under artificial respiratory movements.

Obviously in such severe cases there is small chance of doing much for the patient. The experience gained in this case strengthens our hands in the consideration of future, and let us hope less grave, conditions. In view of the very stinted bleeding from the median basilic vein it might be better to open the external jugular, and so directly relieve the over-gorged central circulation. Oxygen should be used f[illegible] fresh saline solution [illegible]

A TROPICAL FORM OF ADENITIS APPARENTLY DUE TO AN AS YET UNRECOGNISED ORGANISM.

BY R. LEONARD LEY, M.B. CANTAB., M.R.C.S. ENG., L.R.C.P. LOND.

I HAVE seen recently three cases of adenitis that would come under this heading, and as I believe little is known about the disease in this country, and find no reference to it in the standard medical works or text-books, I thought the cases worth recording. What little I have learnt is from the patients themselves and from the examination of the glands from the first case. My three cases have been in soldiers who had recently served in Burma and Northern India, where apparently it is common.

CASE 1.—*The patient*, who had been home from Burma for one year, attended the out-patient department of St. Mary's Hospital, London, at the end of August, 1907, and was admitted under the care of Mr. S. Maynard Smith early in September. He gave the following history. He had noticed swellings in the groins about 18 months previously. These had gradually grown larger, as the result, he thought, of playing football. He had on admission masses of enlarged glands in both groins, of the size of a large closed fist. Some of the glands were soft and the individual glands moved fairly freely on one another and on the surrounding tissues. The skin over the glands was thinned, and in one place on the right side undermined. He denied all venereal disease and there were no signs of syphilis. There were no enlarged glands in other parts. The history was too long for malignant disease, primary or secondary, and there was no evidence of primary [illegible] the glands had all the characteristics of [illegible] removed, and [illegible] were found strongly to resemble tuberculous gland. Some of the glands were of the size of pigeons' eggs and were riddled with foci of caseous material which was of a greenish-yellow colour and was of softer consistency than that usually found in tuberculous glands. The colour, however, was the main point of difference, being very unlike the creamy-white appearance of a broken-down tuberculous gland. The glands were examined in the pathological laboratory of the hospital, and when examined microscopically the changes found were quite unlike those found in tuberculous adenitis; there were none of the characteristic tubercles with giant cells, and in spite of repeated attempts, no tubercle bacilli or any other organism could be stained. It seemed certain, however, from the microscopical findings that some organism, whose staining affinities were unknown, was present, which produced a chronic inflammation going on to necrosis in much the same way as the tubercle bacillus. It was then suggested that it might be some form of tropical disease, and on questioning the patient I discovered that such a disease existed which attacked men and animals (horses and mules), that the glands in the groin were those usually attacked, and that the animals got the disease from cracks in their hoofs from in saline. No superficial ulceration is produced at the site of the injection.

2. Glycerine extract of liver. This is not so toxic and the dose used was 15 minims of a half dilution in saline. No superficial ulceration is produced at the site of injection; the extract has the disadvantage of being particularly unstable.

3. Mixed extracts of intestinal mucosa and liver. 10 minims of mixed intestinal extract (one-half dilution) plus an equal amount of liver extract (undiluted) was toxic and lethal without producing superficial ulceration. The dose tolerated of the foregoing mixture was five minims.

4. Mixed extracts of intestinal mucosa, liver, and pancreas. This is very toxic, and the superficial ulceration produced necessitated the destruction of the animals. It was, however, found that five minims of the following mixture was tolerated: equal parts of intestinal extract (one-half dilution), liver extract (undiluted), and saline solution, plus 4 per cent. of pancreatic extract (one-half dilution); the tryptic strength of the pancreatic extract was 10 grains, and the amylolytic strength five grains to the drachm (A. and H.).

5. Splenic extract (ox). The spleen was digested in water containing 0·2 per cent. of acetic acid. The dose employed was 15 minims of one-half dilution with physiological saline solution, but no toxic or ulcerative effects were produced by the same dose of the undiluted extract.

The investigation was commenced in March, 1908, and up to the end of July it seemed to afford me some ground for encouragement. For example, in one series of nine mice, which survived, although previous treatment with intestinal extract did not prevent the tumours from appearing after inoculation, two tumours grew progressively and seven became absorbed. In another series of 16 mice two were negative to inoculation, six grew, and eight became absorbed; while in a third series of 12 mice, treated with the mixed extracts of intestine, liver, and pancreas, two were negative to inoculation, three tumours grew, and these, together with seven which were positive to inoculation, practically disappeared. No conclusion was, however, permissible from these results owing to the early death of some of the treated and untreated (control) mice in the several series. Neither was any conclusive result obtained by treatment with liver extract alone, owing to its liability to undergo decomposition.

Repetition of treatment with the mixed extracts during later months has not given the same result nor confirmed the earlier hopes. For example, in one series of 16 mice four were negative to inoculation, six growths took place and six disappeared, compared with six growths out of 12 and six disappearances in the untreated controls. As regards the growths, the slight difference in favour of the treated mice is not sufficient to demonstrate a specific action, since the tendency to spontaneous absorption was also present in the controls. As regards the negative cases and absorbed growths, in favour of the treated also, it is not possible to say whether treatment assisted natural processes or not.

In the case of tumours of generally slower growth there is no evidence that any beneficial influence has been exerted, although in such cases it is more difficult to arrive at a comparative conclusion, especially as regards retardation of growth. In other observations on rapidly growing tumours without a tendency to natural absorption the treatment did not arrest their onward progress. In one series in which splenic extract was used, while six were negative to inoculation and five growths disappeared, there seemed to be increased growth, eight progressive tumours occurring in 19 mice treated, compared with three in the 12 untreated control animals. The treated mice had a smaller average weight than the untreated; this may have been a possible factor in the result.[6]

It is too early to conclude that these results are condemnatory of the whole theory of intracellular ferment action and ferment treatment in carcinoma. They refer solely to the hypodermic method of administration or to particular combinations of the extracts employed.

Tables I. and II. present in a concise manner the whole series of observations, chiefly with the mixed extracts, on squamous celled carcinoma (mammary), adeno-carcinoma, and medullary cancer in mice. Table I. shows the results in cases in which treatment was commenced previous to inoculation and continued afterwards. The small difference in favour of the treated mice in Series A and C so shown may have some significance, but does not appear to be conclusive. Table II. shows the results in which mice were treated after inoculation, and shows that the results in these therapeutical experiments must be considered negative.

Green-street, Park-lane, W.

Clinical Notes:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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LABOUR OBSTRUCTED BY A FIBROID TUMOUR; CÆSAREAN SECTION; SUPRAVAGINAL HYSTERECTOMY.

BY C. E. PURSLOW, M.D. LOND., M.R.C.P. LOND.,

HONORARY OBSTETRIC OFFICER, QUEEN'S HOSPITAL, BIRMINGHAM.

I SAW this patient in consultation with Mr. J. K. Syms at her own home at 11 P.M. on Feb. 20th last. She was 39 years of age and this was her first pregnancy. There was nothing in her previous history which pointed to the existence of a fibroid tumour. Labour pains had commenced 24 hours before I saw her, and the membranes had been ruptured ten hours. Mr. Syms on being called in at once recognised that there was a tumour obstructing labour and asked me to see the case with him.

On examining the abdomen a breech presentation could be diagnosed, and it was easy to make out that the presenting part was well above the pelvic brim; nothing could be felt of the obstructing tumour by abdominal palpation. On making a vaginal examination the pelvis was found to be occupied by a hard, somewhat uneven, tumour, which could not be displaced; the os was clearly in front of the tumour, which pressed upon the posterior vaginal wall, but by the greatest effort it was not possible to reach the cervix with the examining finger, the pelvis being completely occupied by the growth. Cæsarean section was decided upon and the patient was taken to the Queen's Hospital in a cab, and at 1 A.M. I operated.

The abdomen was opened by a median incision, and the uterus was likewise incised vertically in the middle line, and child and placenta were removed. The tumour was found to be growing from the posterior wall of the uterus low down and by a broad base of attachment. Hysterectomy seemed to be the most suitable operation, and I accordingly removed the uterus and tumour by the supravaginal (or subtotal) method, the edges of the cervix were brought together by catgut, the peritoneum of the pelvic floor was united by continuous fine silk sutures, and the abdominal wall was closed in layers.

The patient made an uninterrupted recovery. She was unable to suckle the child, as no milk was secreted; artificial feeding was used, but the child made good progress and both mother and child left the hospital in excellent condition at the end of a month.

Birmingham.

A CASE OF HERNIA THROUGH THE FORAMEN OF WINSLOW.

BY WALTER H. HAW, B.A., M.R.C.S. ENG., L.S.A. LOND.,

DISTRICT SURGEON, KNYSNA, CAPE COLONY.

THE following case, which occurred in my practice recently, is perhaps in some respects unique. According to Treves,[1] "hernia into the foramen of Winslow occurs in adults, and in men more often than in women. Eight cases at least have been recorded."

A coloured boy, aged five years, was brought to my surgery at 9 A.M. on the morning of Jan. 28th in a moribund condition, and he died within half an hour while in the surgery. The history was as follows. On Jan. 15th his mother had applied to me for medicine for the boy, who had shown symptoms of worms. The powders (santonin and calomel) and medicine given had apparently been followed by good effect, for on the 27th he was running about at play and appeared all right until 7 A.M. on the 28th. At this time he was suddenly seized with abdominal pain and great tenderness, and he was brought to my surgery, as stated, at 9 A.M., his death occurring half an hour later.

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[6] In the treated of this series a moveable lymphatic gland in the inguinal region on the side of inoculation was evident to palpation in seven (in one case bilateral) of the negative cases and absorbed growths. In the treated of Series C, No. 4, the same was noted in eight (in one case bilateral) similar cases, and in one of the untreated controls; in this series also metastasis took place, apparently in the lymphatic gland in one of the treated cases.

[1] System of Surgery, 1898 edition, vol. ii., p. 658.

At the post-mortem examination it was discovered that the cæcum, the appendix, and part of the ileum lay behind the stomach, having passed through the foramen of Winslow. Reduction was impossible until the gastro-hepatic omentum *containing the vessels, &c., passing to the liver was divided,* when the mass was easily withdrawn. A curious part of the case was that the cæcum and appendix up to the tip of the latter were tightly packed with round worms, the appendix being about the diameter of the thumb and conical in shape. 53 large worms were removed from the cæcum and appendix. The strangulated portion was naturally deeply congested and swollen, but the rest of the small intestine was not dilated, although there was some injection of the mesenteric vessels [illegible]

[illegible] re: (1) the age of the [illegible]; and (3) the fact that the condition was apparently directly brought about by the presence of the worms.

Knysna, Cape Colony.

A CASE OF ACROMEGALY.

BY E. P. CARMODY, L.R.C.P. LOND., M.R.C.S. ENG.

THE patient, a married woman, aged 33 years, was seen by me first on Dec. 19th, 1908. She complained of constant headaches, most marked over the forehead, and general *weakness, and stated that she had been in poor health for* about seven years. She had noticed enlargement of her hands and face for the last two years and had become round-shouldered. Her voice had been getting deeper and harsher. Catamenia had ceased six years ago. There were profuse sweatings at night. There was a history of rheumatic fever. Her condition was as follows. She was intelligent. She was a sallow, unhealthy-looking woman. There was enlargement of *the face, especially* the nose, *lower jaw,* and lips. The frontal region was prominent. The skin and deeper tissues all over the body were thickened but could be pinched up without difficulty. The nasal and tarsal cartilages were increased in size. The ears were leathery. The lower jaw was large, but the lower teeth met the upper teeth when the mouth was shut. The teeth were good and regular. The lips were thick and pendulous. The tongue was slightly enlarged. There was marked kyphosis in the cervico-dorsal region. The clavicles and ribs were large and unduly prominent. The lungs and heart were normal. There was marked impairment to resonance under the manubrium sterni. The thyroid gland was not enlarged, but the patient had previously been under treatment for goitre. The skin was abnormally active. The hands were increased in breadth and the fingers much thickened; the natural creases of the hand were well marked. The feet were unaffected. The larynx was large. The vision was indistinct for near objects There was slight dyspnœa. The urine had been examined on several occasions and contained no albumin nor sugar. Mentally the patient was usually melancholy. Although intelligent at times she was not clear as to her surroundings. Her memory for recent events was bad. She suffered intermittently with insomnia.

I have treated the patient with phenazone for the headaches and have given two-grain tabloids of pituitary extract three times a day for six weeks. Up to the present there is no improvement.

Tilehurst, Berks.

PROVIDENT NURSING.—A special meeting of the council of the Charity Organisation Society will be held on June 28th, at 4 30 P.M., at Denison House, Vauxhall Bridge-road, S.W., when Miss Amy Hughes of the Queen Victoria Jubilee Nurses Institute will read a paper on Provident Nursing. Sir Alfred Lyall, G.C.I.E., K.C.B., will take the chair, and the Right Rev. the Bishop of Islington will speak.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Treatment of Typhoid Fever with an Anti-endotoxic Serum.

A MEETING of this section was held on May 25th, Dr. NORMAN MOORE being in the chair.

Professor R. T. HEWLETT read a paper on the *Treatment of Typhoid Fever* with an Anti-endotoxic Serum. He said that it was generally recognised that an anti-typhoid serum prepared by the injection of the horse with cultures of the typhoid bacillus was useless in the treatment of typhoid fever. An anti-endotoxic serum had been made by the injection of the horse with typhoid cell-juice. Such a serum had an active neutralising power against both the typhoid endotoxin and the typhoid bacillus. The results of the use of this serum in nine cases of typhoid fever were detailed. The impression which had been gained so far was that several cases were benefited and that in two at least the disease was cut short by its use. Typhoid fever was, however, such a variable disease that it was extremely difficult to estimate the value of any form of treatment unless a large number of cases was available. In no instance did the serum appear to do any harm. Unfortunately, cases of typhoid fever usually only came under observation when the disease had existed for a week or longer. If the disease had existed for some time no immediate effect could be hoped for from the use of a serum, however efficient that might be. Moreover, the existence of secondary infections, which often occurred in typhoid fever, must limit the value of any serum. As regards dosage of the serum, his impression gained from those few cases was that the serum should be given freely—namely, from 10 to 20 cubic centimetres daily—until the temperature had reached the normal, and perhaps in smaller doses for a week subsequently. Another point was that the preparation of an anti-endotoxic serum was at present in the experimental stage. They did not know for how long the horse should be immunised and he was inclined to think that it was possible *to over-immunise,* that was the serum did not increase in potency after a certain number of doses of the typhoid endotoxin; in fact, harm might result from continuing the injection of the horse. The horse seemed to be extremely susceptible to the typhoid endotoxin and a period of eight months elapsed before a dose of 30 cubic centimetres could be given. In a second horse which he was immunising the commencing dose of toxin was 0·1 cubic centimetre, and even that small *dose caused so much* disturbance that it had to be repeated five times at weekly intervals before the dose could be increased. He thought it would be of interest to test whether the typhoid endotoxin would give an ophthalmic reaction. For that purpose some typhoid endotoxin was carefully prepared, so as to eliminate as far as possible extraneous substances, and dried *in va*[illegible] marked reaction in several cases [illegible]o gave a reaction in one or two [illegible] did not give a reaction with several cases not typhoid. The interest of the observation was that the substance producing the reaction was thus shown to be an intracellular constituent of the organism.

Dr. E. W. GOODALL, of the Eastern Hospital, Homerton, read a paper detailing the results of the treatment of 26 cases of typhoid fever with the same anti-endotoxic serum. In regard to *the value of the treatment he pointed out* one fact which, before he treated a single patient with serum, led him not to be too sanguine as to its results. He referred to the advanced period of the disease at which the patients were in most instances sent to hospital. That was a fact which militated against any form of treatment, and was, he believed, one of the chief reasons why in his hands the bath treatment, for instance, had not achieved the excellent results obtained *by other physicians. Enteric fever* was a disease which varied in severity to a considerable degree within short periods of time, and the number of cases he had recorded was very small, so that it was impossible for him to speak with certainty as to the efficacy of the treatment. He could only say that it appeared to have done good in a few cases and that it was worthy of further trial. In regard to the ophthalmic reaction in ten cases of enteric fever in which the test was applied, in five the reaction was marked and in five it was slight, whereas in ten cases in which the person tested was not affected with enteric fever in one case the reaction was very marked (a case of scarlet fever), in three (all cases of scarlet fever) it was slight, and in six (four cases of scarlet fever, one case of indefinite pyrexia, and one normal person) there was no reaction.

Mr. R. M. Bruce of the Western Hospital, Fulham, sent a note on five cases of typhoid fever treated with the same anti-endotoxic serum. The number of cases treated was, of course, too small upon which to base any trustworthy conclusions, but his impression was that two at least were benefited by the injections, and that one case in which the temperature subsided on the seventeenth day would not improbably have run a more severe and prolonged course if the serum had not been used.

In answer to Dr. Moore, Dr. Goodall said that the condition of supersensitisation might last from two to five years.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Rupture of the Uterus.

A meeting of this section was held on May 13th, Dr. Herbert R. Spencer, the President, being in the chair.

Dr. T. W. Eden read a paper on the Operative Treatment of Rupture of the Uterus, with an account of three cases treated by Abdominal Hysterectomy. Dr. Eden summarised the discussion on rupture of the uterus at the Obstetrical Society in 1900, introduced by Dr. H. R. Spencer, who related four cases treated by gauze packing, and advocated the use of this method in practically all cases. In 1901 Varnier recorded his experience of uterine rupture, condemned conservative treatment such as gauze packing, and advocated abdominal section for removal of the uterus in all serious cases. Dr. Eden then recounted the three following cases: 1. A case of rupture during version for transverse presentation in a II.-para, aged 29 years, at Charing Cross Hospital, on Jan. 22nd, 1905. Rupture was complete, the placenta having passed into the peritoneal cavity. The placenta was removed by hand, the peritoneal cavity douched through the rent, and an attempt made to pack the rent, which was very extensive, with gauze. 14 hours after delivery, as there was evidence of fresh internal bleeding, the abdomen was opened, and free bleeding found from the edges of the laceration, which the gauze packing entirely failed to control. The uterus was removed by the supravaginal method, the pelvic peritoneum was closed, and the vaginal portion of the rent was then packed from below. The patient made a good recovery. 2. A case of rupture during version with a VI.-para, aged 33 years, at Queen Charlotte's Hospital, on April 10th, 1908. She had previously been twice operated upon, the first time for retroversion, the uterus being ventrofixed; the second time for extra-uterine gestation; the pelvis was flat and "pendulous belly" was well marked. The placenta had passed into the peritoneal cavity, and the rent was complete and very extensive. Three hours after delivery the abdomen was opened, and the uterus removed by the supravaginal operation; vaginal drainage was employed and the patient made a good recovery. 3 A case of spontaneous rupture during the second stage of labour in a II -para, aged 25 years, at Charing Cross Hospital, on Jan. 17th, 1909. After a prolonged first stage, during which the membranes remained unruptured, strong labour pains set in and the head advanced well into the pelvic cavity. The patient was then violently sick and immediately became collapsed; hæmorrhage occurred from the vagina, and on examination the head was found to have receded and could no longer be felt. Diagnosis of incomplete rupture into the left broad ligament was made, and the fœtus was extracted *per vias naturales.* A complete and very extensive rupture was then discovered; the pelvis was contracted. The abdomen was opened three hours after delivery; the left ovarian artery was torn and had retracted, while still bleeding, beneath the peritoneum above the pelvic brim. The uterus was removed by the supravaginal method and vaginal drainage was employed. The patient at first rallied after the operation, but died rather suddenly seven hours later. At the post-mortem examination fresh bleeding was found to have occurred from a tear of the bladder, which had not been noticed at the operation. In considering the general question, it was pointed out that the three risks associated with this accident are shock, hæmorrhage, and sepsis. Dr. Eden believed that deep bleeding occurred with greater frequency than had been supposed, and might be met with in both complete and incomplete rupture, although the risk was greater in the former. The hæmorrhage which immediately followed the rupture usually ceased spontaneously, but recurrent bleeding was frequent, because uterine retraction could not control it, and the bleeding might in part be extra-uterine To control hæmorrhage was therefore an indication of the first importance. Cases of extensive incomplete rupture might be quite as serious as those of complete rupture and were attended by exactly the same risks. Abdominal section and removal of the uterus by the most rapid method possible was recommended because (1) it is the only certain way of controlling hæmorrhage; (2) the uterus has frequently been infected previous to the operation; (3) if the uterus is left and the patient recovers the risk of repeated rupture in a subsequent pregnancy is high. Laparotomy and suture of the rent had been shown to yield a higher mortality than hysterectomy, and, for the other reasons stated, was not to be recommended. In cases of extreme urgency it might be wiser, after opening the abdomen to control hæmorrhage, simply to pack the rent from above into the vagina and to remove the uterus a day or two later by the vaginal route.

Dr. A. L. H. Smith read a paper on Rupture of the Uterus giving details of a series of ten cases of complete rupture of the uterus, eight of which were treated in the General Lying-in Hospital, and which were the total number of examples of this accident which had occurred among 10,989 deliveries during the last 20 years. Of the ten cases nine died and one recovered. 80 per cent. of the patients were multiparæ, 20 per cent primigravidæ. The cases were divided into two classes. In the first class the rupture was due to an abnormal excitability of the uterus, resulting in a great increase in the strength and frequency of the contractions together with a premature retraction, a condition exactly similar to that produced by the administration of ergot. In the second class the rupture followed a prolonged and obstructed labour, and in some cases was possibly the result of perforation with an instrument or was due to some intra-uterine manipulation.

The President said that in considering the question of treatment it was to be borne in mind that, although rupture sometimes occurred spontaneously and in careful hands, it arose for the most part in bad and dirty midwifery practice, and consequently the tissues were often bruised and infected, and many would die however they were treated. He showed ten specimens of rupture from the Museum of University College Hospital. In two of the cases abdominal hysterectomy had been performed, with a fatal result in each case from shock. Only one of the ten cases was a suitable case for supra-vaginal hysterectomy. Total hysterectomy was indicated in those cases which required the removal of the uterus, but in his opinion these patients were usually too much shocked to stand removal of the uterus by the abdominal route

Dr. C. Hubert Roberts related four cases of rupture of the uterus which had come under his care. The first of these was treated by plugging the rent and she recovered. In the second and third cases the abdomen was opened and the rent sewn up with silkworm-gut sutures. One of these recovered and three years later was safely delivered of a full-term child at Queen Charlotte's Hospital. The fourth case died very soon after delivery before it was possible to attempt any treatment. As to treatment, Dr. Roberts thought no hard-and-fast rule could be adopted.

Dr. G. Drummond Robinson stated that he had had five cases of ruptured uterus under his care. One patient died shortly after rupture had occurred. In two cases the rupture was discovered after the delivery of the child. In both of these cases gauze-packing was employed and they both recovered. In two other cases the fœtus was still in the uterus when the rupture was discovered, and abdominal hysterectomy was performed. Both patients died. Dr. Robinson was surprised that others had not alluded to this class of rupture in which the fœtus was still in the uterus, and delivery by the vagina was contra-indicated. He thought that in cases of this kind there was no option but to perform abdominal section and at the same time to remove the uterus.

Dr. J. S. Fairbairn said he could speak only from a small experience of about six cases, in which, however, the three methods of plugging, suture of the rent, and abdominal hysterectomy had been tried. He thought that there was a place for all these forms of treatment, and that what should be aimed at was some means of recognising the cases suitable for each method. He had had three cases in which no operative treatment was done, two of which made as straightforward a recovery as any uncomplicated labour case. In one of them there was a rent through the posterior wall of the uterus which admitted three fingers, but there was no bleeding, and a gauze plug was all that was required to prevent intestinal prolapse. In another case there was an extensive laceration into the left broad ligament large enough to admit the whole hand, but not communicating with the peritoneal cavity. Nothing at all was done and she made an uninterrupted recovery. A third case in which plugging was tried died in 24 hours. In the case in which hysterectomy was done the child, who had been lying transversely, had escaped into the left broad ligament, and the placenta had been extruded into the peritoneal cavity. Both child and placenta had been delivered by the outside practitioner before the patient was admitted. She was suffering profoundly from shock and was bleeding, so the abdomen was opened. The posterior layer of the broad ligament was torn into [illegible] a bridge, and the uterine rent [illegible] course than hysterectomy was [illegible] a few hours later, as also did one mentioned by Dr. Lionel Smith, in whom partial suture of the rent and drainage were tried. These few cases exhibited such differences in symptoms that no one form of treatment would have been suitable in all.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Bier's Hyperæmia.—Post-operative Tetanus.

A MEETING of this section was held on May 7th, Mr. JOHN LENTAIGNE, the President, being in the chair.

Mr. R. ATKINSON STONEY read a paper on Bier's Method of Treatment by Hyperæmia. After mentioning the various forms of hyperæmia, he said he would confine his remarks to passive hyperæmia, produced by means of the elastic bandage and suction glasses, more especially in the treatment of septic inflammation rather than in tuberculous disease, as in the treatment of the latter type of cases his experience had been neither extensive nor promising. He described the method of applying the elastic bandage and the suction glasses, laying special stress on the necessity of not producing too great a degree of hyperæmia, as in that case serious harm might be done. He gave the following rules for the application of the bandage: (1) Place it on the limb as far from the site of the disease as convenient; (2) wind it round a broad surface of the limb to prevent local pressure and pain; (3) do not bandage with sufficient force to weaken the pulse distally; (4) no pain should be caused in the diseased part, rather any existing pain should disappear; (5) the distal part should be bright or dark red, not blue, and should be warmer than the corresponding part on the opposite limb, not colder; and (6) the bandage, for all except tuberculous cases, should be left in position for two periods of 8 to 11 hours or one period of 16 to 22 hours out of the 24. In the case of the suction glasses ordinary aseptic precautions should be observed. A glass of sufficient size should be chosen to leave a margin of one inch or more around the inflamed part or opening, to prevent strangulation or compression of the lips of the opening. Pain should not be produced. And, especially where the cup was placed over a superficial bone or firm membrane, excessive pressure should not be used for fear of sloughing of the parts. Some cases were briefly described illustrating the use of both these forms of application of passive hyperæmia in various conditions.—The PRESIDENT said he had recently been converted to the treatment for boils, but he had seen a great number of cases of tuberculous disease which had deteriorated by the treatment, and in some cases he could not satisfy himself that the dissemination of the tuberculosis had not been in some way due to it.—Mr. K. E. L. G. GUNN said he had tried the treatment in cases of knee and wrist trouble, but found it impossible to produce any degree of congestion without pain.—Mr. W. I. DE C. WHEELER confessed the same experience as Mr. Gunn, but in cases such as gonorrhœal rheumatism he did find some easing of pain and apparently some improvement.—Mr. STONEY, in reply, said the worst results had been got by Bier in the knee-joint, for some reason which he could not explain. He did not suggest the treatment in any case where better results, or quicker equal results, could be obtained by operative means. It was in tuberculous cases that the greatest difficulty was found in producing the correct degree of hyperæmia. The question of tension was difficult to deal with. It was, however, easy to understand that pain, which might be due to irritation of the nerve terminals by toxins produced by organisms, might be relieved by the congestion causing a flow of blood and lymph and producing a dilution of the toxins.

Mr. GUNN read a paper on Post-operative Tetanus.—The PRESIDENT said the paper was one of the most valuable which had been read before the Academy. He could imagine no more appalling catastrophe to happen a surgeon than to have a case, or series of cases, of post-operative tetanus. He could not help keeping to the belief that the catgut used must have been responsible. It was curious that in every case in which the catastrophe had occurred catgut had been used. It would be important to know what methods of sterilisation had been employed. He had himself been using the iodine catgut for some time, but if he was threatened by the terrible phantom of possible tetanus he would be inclined to give up catgut altogether.—Dr. KATHARINE MAGUIRE said she had been in attendance on one of the cases mentioned by Mr. Gunn. It was not a case of hysterectomy alone, but was combined with ovarian tumour, and quantities of thick catgut had been used.—Mr. A. J. BLAYNEY said it seemed difficult to get over the fact that in every single case catgut had been used. They knew the source of the catgut and the probability of its being infected, which made the conclusion of its responsibility all the more probable. The extreme virulence of the cases seemed to be at variance with the results of the bacteriological examination. The conditions inside the body were not such as would be expected to favour the growth of the bacillus; in two of the cases there was no suppuration and therefore no septic organism to prepare the way for the bacillus, and the tissues were well supplied with oxygen, which was also unfavourable to the bacillus.

SECTION OF MEDICINE.

Exhibition of Cases.—Grocco's Triangle.

A MEETING of this section was held on May 14th, Dr. W. G. SMITH, the President, being in the chair.

Dr. O'CARROLL and Dr. F. C. PURSER exhibited a case which had been diagnosed as Locomotor Ataxy. The patient was a young man, 23 years of age, married at 19, the father of two healthy children. The wife had had no miscarriages. There was a distinct history of congenital lues. About a year ago he got suddenly weak in his left leg, with a pain in his knee. Since then he had had a progressive difficulty in walking. Some two years previously he had "seen double" for a short time. His present condition was that without paralysis of any muscles he had considerable difficulty in walking and was very ataxic. The knee-jerks were absent. The pupils contracted neither to accommodation nor light. He appeared to have no loss of sensation in the limbs, but was rather slow in recognising touches on the left leg, especially from the knee down.

Dr. H. C. DRURY [illegible] Ataxia —sisters, aged 11 an [illegible] been noticed about three [illegible] anger was the much more advanced case. She stood fairly well with the feet apart, but could not balance at all with her eyes closed. The elder girl had sometimes a slight shaking of the hand, which was only noticeable when watching closely. There was no sensory disturbance or disturbance of the sphincters. The eye symptoms were variable. In the younger girl there was slight nystagmus, but some days it was absent altogether. In both cases there was a total loss of knee-jerks. The limbs were well nourished. The younger girl showed well-marked lateral curvature, and both feet were getting flat. She had a systolic murmur heard near the apex; and at the base of the heart she had a loud systolic murmur when lying down, which disappeared when she sat up. The day following the observation of the latter murmur it was exactly the reverse—that is, it was absent when lying down, and present when erect; it varied from day to day. Her sister had the same. When they went to hospital they were very thin, but they had grown fatter and better in colour after a couple of months on arsenic. Dr. Drury also exhibited a case of Idiopathic Muscular Atrophy in a man, aged 24 years.

Dr. T. G. Moorhead read a paper on Grocco's Triangle, giving his observations on the subject for some years past.—Dr. T. P. C. Kirkpatrick said he had looked for the sign during the past two years and had endeavoured to demonstrate it. He could sometimes demonstrate it to his own satisfaction, but he had often failed to do so to others looking on. It was in cases of small effusion that the sign was of particular value and it was in such cases that it was very difficult to elicit it.—The President said that, short of post-mortem evidence, some mystification hung over the subject. It took ten ounces of fluid to produce recognisable physical signs, and in cases of large effusion the sign was hardly necessary.—Dr. Moorhead, in reply, said he was an advocate of early removal of fluid, and endeavoured to demonstrate it. In three of the five cases in which he did not get the sign he also demonstrated fluid, but he had not been able to demonstrate the relationship between the size of the triangle and the effusion.

Bradford Medico-Chirurgical Society.—A meeting of this society was held on May 18th, Dr. W. Ward-Smith (Vice-President) being in the chair. The following specimens were exhibited:—Dr. C. F. M. Althorp: (1) Intestinal Obstruction due to Gall-stones; and (2) Tumour of Testicle.—Dr. A. Bronner: (1) Cholesteatoma of External Auditory Meatus; and (2) Papillomata removed from the Larynx.—Dr. Lockerbie: (1) Placental Polypus; and (2) Uterine Fibroid.—Dr. T. Jason Wood: (1) Ovarian Dermoid; (2) Hydrocele of Cord; (3) two specimens of Prostatic Enlargement; and (4) some varieties of Uterine Fibroid.—Dr. F. W. Eurich: (1) Specimen from case of Nitric Acid Poisoning; and (2) Thymus from a child, aged two years, weighing two ounces.—Dr. Charles Stiebel: Intrapancreatic Aneurysm.—Dr. W. Mitchell read a paper entitled "Some Tuberculous Skin Diseases." He said that the first variety, tuberculosis cutis vera, was rare and was simply an infection from within at the orifice of a mucous outlet—e.g., round the mouth in pulmonary tuberculosis. Treatment was not in this case of much use owing to the constant re-infection. The second variety, tuberculosis verrucosa, was due to infection from without and was somewhat rare. The treatment consisted in applying preparations of salicylic acid or pyrogallol, curetting, and treating with Finsen light or with x rays. The third variety, scrofuloderma, was not, strictly speaking, a primary disease of the skin, but arose from a caseating gland or bone lesion in the subcutaneous tissues. The treatment consisted in removing the original focus of the disease and applying antiseptic dressings. The fourth variety, lupus vulgaris, was a chronic cellular overgrowth due to the invasion of the skin by the tubercle bacillus. After enumerating various methods of constitutional treatment which had been tried in this disease, he said that many eminent authorities strongly advocated the use of the new tuberculin and that with regard to local measures the x ray treatment was the most successful of all.—A discussion followed.—Dr. Eurich suggested that in those cases which did not yield readily to x ray treatment tuberculin should be tried as well. Very often the combination succeeded where either treatment separately was ineffectual.—Mr. F. W. Goyder agreed with the last speaker. He was also greatly in favour of excision where possible and thought that scraping in many cases was distinctly useful.—Dr. Ward-Smith compared the treatment now with that of five years ago when he was in charge of the x ray department.—Dr. Lockerbie asked if the x ray treatment ever caused epithelioma.—Dr. Bronner said that he had been very successful with scraping combined with the application of pure formalin.—Dr. Mitchell then replied.—Dr. H. J. Campbell read a paper on the Therapeutic Uses of Alcohol. After describing the physiological action of alcohol on the various tissues and systems of the body, Dr. Campbell summed up as follows: Alcohol should be avoided in all cases of deficient elimination—e.g., kidney disease; in all cases where a pernicious habit is likely to be acquired, as in neurasthenics and women at the climacteric; in all cases of chronic nervous depression and in all conditions where prolonged mental or muscular strain has to be undertaken; and in all cases where there is a condition which is likely to recur. The drug is useful under suitable conditions of administration as a cardiac and respiratory stimulant and promoter of appetite.

United Services Medical Society.—A meeting of this society was held on May 19th, Lieutenant-Colonel W. G. Macpherson, R.A.M.C., being in the chair.—Major H. W. Grattan, R.A.M.C., and Captain A. L. A. Webb, R.A.M.C., communicated a paper and gave a demonstration of the method of the preparation of the antityphoid vaccine for the army. They said that the vaccine was prepared at the Royal Army Medical College, and that during the last 12 months they had prepared and issued 40,800 double doses for the use of the army both at home and abroad. They stated that the vaccine was prepared from the broth culture of the typhoid bacillus, and demonstrated the various steps of the technique. A few of the points upon which they laid special stress were: that the culture should not be overheated (a temperature over 53° C. having been found to have a deleterious effect on the immunising properties of the vaccine), that the antiseptic (0·25 per cent. lysol) should not be added until the vaccine had cooled down, and that the vaccine should not be used later than three months from the date of manufacture. These conclusions had been arrived at as the result of experimental work on the protective substances found in the blood of men and animals inoculated with vaccines prepared at different temperatures and of different ages. They quoted the most recent statistics available, which had been compiled by Brevet-Lieutenant-Colonel W. B. Leishman, R.A.M.C., and published in the February number of the *Journal of the Royal Army Medical Corps*. The total strength of the 16 units under observation was 12,083; of these 5473 were inoculated, amongst whom 21 cases of enteric fever occurred with two deaths. The remaining 6610 non-inoculated men served as a control, amongst whom occurred no less than 187 cases of enteric fever with 26 deaths.

Medico-Legal Society.—A meeting of this society was held on May 25th, Dr. J. Scott being in the chair.—Dr. Charles A. Mercier read a brief note on the recent case of Rex *v.* Governor of Stafford Prison (*ex-parte* Emery), in which a deaf mute accused of a felony was held by the Divisional Court unable to plead and was ordered to be detained as non-sane.—Mr. S. R. C. Bosanquet, Dr. F. J. Smith, and Dr. S. B. Atkinson joined in the discussion.—Dr. T. Claye Shaw followed with a paper entitled "On a Prominent Motive in Murder," taking the "lust for blood" as his theme.—There also spoke Earl Russell, Mr. H. Sweeney, Dr. Mercier, and Dr. W. A. Brend.—The following proposition was moved by Dr. Mercier and carried:—

> That in the opinion of this society it is urgently necessary that legislation to amend the Inebriates Act should be introduced without delay.

The honorary secretaries were deputed to bring the society's resolution to the notice of the proper authorities.—The annual meeting and dinner of the society will take place at the Holborn Restaurant on July 13th, when the Hon. Mr. Justice Walton, the President, will take the chair.

Medical Motorists and the Budget.—On May 25th Mr. C. B. Lockwood, of St. Bartholomew's Hospital, occupied the chair at a special meeting of the Motor Union Committee of Medical Motorists held at the offices of the union to consider the Budget proposals of the Chancellor of the Exchequer in so far as they affect members of the medical profession using motor cars. There was a representative attendance of medical men, members having travelled from the North and West of England in order to be present at the meeting. The committee resolved that the motor-car has now become an absolute necessity to a medical practitioner, who is, therefore, entitled to make a special claim for abatement. It was resolved to approach the Chancellor of the Exchequer with a view to securing a rebate of 1½*d.* per gallon on petrol used by medical men. A letter was read from Mr. W. Joynson Hicks, M.P. (chairman of the Motor Union), stating that the Chancellor had agreed to receive a deputation on the matter.

Reviews and Notices of Books.

The Collected Papers of Joseph, Baron Lister, Member of the Order of Merit, Fellow and sometime President of the Royal Society, Knight Grand Cross of the Danish Order of the Danebrog, Knight of the Prussian Order pour le Mérite, Associé Étranger de l'Institut de France, &c. In two volumes. Vol. I., pp. 410; Vol. II., pp. 552. Oxford: At the Clarendon Press. 1908. Price £2 2*s.* each volume.

IN many foreign universities, especially in Germany, it is the custom to honour the jubilee of a professor or his retirement from his post by the publication of a "Festschrift"; this usually takes the form of a volume containing contributions relating to the branch of knowledge for which he has been famous, and written by his friends and former pupils who take pleasure in thus showing their respect and their gratitude for the teaching they received from him years before. In this country the practice is almost unknown, and we cannot but regret this. We do, indeed, on occasion celebrate important events in the life of an honoured teacher, but it is seldom that the celebration goes farther than a dinner. There are, however, exceptions, and the volumes before us form a very appropriate memorial of Lord Lister's eightieth birthday. On April 5th, 1907, he reached the age of 80 years and he received many congratulations, not only from his own countrymen but from representatives of medicine and surgery in all parts of the civilised world. It was then felt that some permanent memorial should be instituted of an occasion so happy and of a life so rich in benefits to all the human race. It was therefore determined by those most fitted to judge that no more appropriate memorial could be chosen than an edition of his scientific papers, collected together from the many magazines and journals in which they had appeared, for in these papers are recorded the several steps by which was brought about the great revolution which will always be associated with his name, and in them those who come after will be able to find the great principles on which that revolution was founded. Lord Lister approved of the idea, and the two volumes now issued contain all the paper and addresses which he himself considers to be of permanent interest and importance; those only have been omitted which were addresses on some official occasions and dealt with matters of ephemeral or merely local interest. The committee responsible for preparing these volumes for the press consisted of Sir Hector Cameron, Sir W. Watson Cheyne, Mr Rickman J. Godlee, Dr. C. J. Martin, and Dr. Dawson Williams, and the result does infinite credit to them.

The contents of these volumes have been classified under four heads: those in the first part deal with physiology, and those in the second part with pathology and bacteriology; in the third are papers on the antiseptic system and on general surgery, and in the fourth part are included general addresses and lectures. With regard to physiology, it is of interest to note the particulars with which the papers deal. In reading these articles and in appraising their value it must not be forgotten that the great discoveries of one generation become the commonplaces of the next, and in this case nearly two generations have passed since the first paper was published in 1853. The first three articles deal with the structure of involuntary muscular fibres. Five years before Kölliker had for the first time explained the cellular structure of all plain muscular fibres, and the researches contained in these papers were intended to confirm and extend the opinions which had been put forward by Kölliker, and this they succeeded in doing very satisfactorily. Although we have attained to a more thorough knowledge of involuntary muscle fibres, yet the advance indicated by our present knowledge is hardly so great as might have been expected. Some papers follow on the nerve-supply of arteries and the cutaneous pigmentary system of the frog, and then come several important articles dealing with the subject of the coagulation of the blood. The earliest of these recorded a large number of experiments, performed to test the various theories of coagulation which were then current. The most recent of these was the ammonia theory of that most ingenious and versatile of observers, Sir Benjamin Ward Richardson, who explained coagulation as being due to the escape of ammonia from the blood. Lister was at first inclined to accept this theory, but as he performed more and more experiments he was compelled to abandon it. He tested in turn the other current theories but found them all wanting; yet he was not insistent on propounding any rival theory: he merely stated the facts which appeared to be proved by the experiments he performed. The reader of these papers cannot fail to be struck by the judicial position maintained by the writer; even with regard to his own observations he never degenerates into a special pleader. The articles on coagulation were spread over a long period, the earliest appearing in 1858 and the latest in 1891.

Next in order we come to the section dealing with pathology and bacteriology, which is of more immediate importance from a medical point of view. This includes nine papers: the most important being, first, one on the early stages of inflammation, published in 1857, containing much that was new; and secondly, several dealing with fermentation and the relations of micro-organisms to disease, the earliest of which dates from 1873, being subsequent to the enunciation of the practice of antisepis. This paper is concerned with the influence of the medium on the growth of an organism, as exemplified especially by torulæ. Two others deal with the nature of fermentation as shown in the changes which occur in milk; another treats of the relations of micro-organisms to disease; and still another of their relations to inflammation, the opinion being expressed that many conditions influence the occurrence of inflammation, while the value of counter-irritation as a therapeutic measure is extolled. In these papers, which we need not discuss in detail, we have evidence of the care with which Lister deals with controversial matters; though he was himself the introducer of the idea that the presence of organisms caused inflammation and suppuration in wounds, yet he brings forward evidence, not conclusive in all cases we must now deem it, which tends to show that some inflammations may occur without the aid of micro-organisms.

The third part contains, as we have already mentioned, papers on the Antiseptic System and on General Surgery. The first articles dealing with the antiseptic system appeared in THE LANCET in 1867; they were entitled "On a New Method of Treating Compound Fracture, Abscess, &c.," and commence with the following sentence: "The frequency of disastrous consequences in compound fracture, contrasted with the complete immunity from danger to life or limb in simple fracture, is one of the most striking as well as melancholy facts in surgical practice." This is the keynote of the paper—what is it that prevents a compound fracture from healing as readily as one that has no communication with the outer air? Lister says at once that the decomposition of animal matter in the wound is produced by the entrance of germs with the air, and he also points out that it is probable that the pernicious effects of decomposing animal matter upon the tissues had been underrated. He cites in proof of this doctrine the harmlessness of a pneumothorax resulting from puncture of the lung by a fractured rib, which proves that atmospheric air in itself is not harmful, and he contrasts the ready absorption of the air in a pneumothorax so produced with the harmful results of a pneumothorax caused by an external wound. It occurred to him that if it were possible to dress the wound in a compound fracture with some substance capable of killing these septic germs it should heal like a simple fracture. A year earlier he had seen that carbolic acid prevented the odour from decomposing sewage, and he determined to employ it for treating compound fractures. The first case, in May, 1865, was a failure, but in August a success was obtained. Other successes followed, and the technique varied, with the results which he now began to obtain. Sometimes merely lint dipped in liquid carbolic acid was laid on the wound, and in others a carbolic putty was employed; pieces of sheet tin were also tried to keep the carbolic acid in the dressing. The events were surprisingly good, though the means employed seem now to be extremely crude. In all 12 cases are mentioned, and of these two died. The first fatal case *should, perhaps, hardly be counted in the series, for the* method was only being devised; and the other patient died from hæmorrhage from the femoral artery caused by pressure of a fragment of the broken bone. This second case had survived the original accident four months, so that even in it the method could not be described as absolutely a failure. The same paper contains an account of a method of opening chronic abscesses, such as those of the psoas, by which septic infection was prevented, where Lister showed that if the skin is covered by a rag soaked in carbolic oil and the incision is made under this, one edge being lifted up for the purpose, the pus can escape but germs do not enter. The re-dressings were performed with similar precautions, and the happy issue of a number of cases demonstrated the success of the method and the truth of the theory.

At the Dublin meeting of the British Medical Association in 1867 Lister read a paper on the Antiseptic Principle in the Practice of Surgery, and in this paper we find it laid down as conclusively proved that "all the local inflammatory mischief and general febrile disturbance which follow severe injuries are due to the irritating and poisonous influence of decomposing blood or sloughs," with the striking commentary that "these evils are entirely avoided by the antiseptic treatment." We find the carbolic putty again recommended, but it is advised to apply it in a layer a quarter of an inch thick between two pieces of thin calico. Here also we find the first published reference to the antiseptic method being employed for amputation and for strangulated hernia, and the statement that ligatures may safely be cut short; and, lastly, Lister points out the effect on his wards in the Glasgow Royal Infirmary of antiseptic treatment. He tells us that while the ventilation of these wards was very bad, whenever nearly all the beds contained open sores, hospital gangrene and pyæmia were almost sure to show themselves; but when the antiseptic treatment had been brought into full operation the general condition of the wards greatly improved, so that during the nine months immediately preceding the reading of the paper not a single case of pyæmia, hospital gangrene, or erysipelas had occurred in them.

The succeeding papers are mainly concerned with records of individual cases in which the antiseptic method had been employed and with accounts of modifications of the method suggested by a widening experience. Various antiseptic plasters are tried; notably a combination of shellac with carbolic acid proved useful, and various operations are described in which the method had been performed. In one case a penetrating wound of the thorax and abdomen with prolapse of omentum was treated successfully and an empyema did not develop, as in those days might have been confidently expected; and in another case an acute infective periostitis of the tibia healed well. A case of old fracture at the ankle with a fixed displacement of the foot was treated by an open operation and the foot replaced in position without any septic complications occurring; in fact, it is obvious that Lister was discovering that the field of the activity of the surgeon was being greatly widened. Here also we find an account of a successful ligature of the external iliac artery in its continuity, the ligature being cut short. Two papers on the value of catgut for ligatures and sutures follow and detailed accounts are given of the method of preparation and the desiderata in catgut to be used for surgical purposes. The later of these papers appeared in THE LANCET only last year.

Other articles included have appeared in the medical press from time to time dealing with important cases treated by the antiseptic method—for instance, the case of a man, 30 years old, who was struck by a railway engine and sustained a compound fracture of an ankle, a compound fracture of an elbow, and extensive scalp wounds baring the bone; recovery follows the treatment adopted, and *Lister shows by the method which he describes that though* he may vary the details the principles of therapy remain the same, and that thoroughness of the practice remains the one essential factor. In reference to this case he points out that the antiseptic is not applied to the surface of the wound after the original application; the tissues having been freed from the germs which had infected the wound are allowed to recover unirritated by antiseptic applications. He describes various forms of protection, the special function of which is to exclude the antiseptic of the dressing from the wound. In 1870 there appeared in the *British Medical Journal* Lister's suggestions for the application of the antiseptic method to the wounded in the Franco-Prussian war which was then raging, and the suggestions represent the treatment reduced to what he thought to be its minimum—the very least, i.e., that could be done in the circumstances. In a case reported in 1871, in which Lister operated for the improvement of a vicious union of a fractured forearm, we first hear of the use of the carbolic spray during the operation, and for the dressing oakum was employed successfully in place of carbolic putty or lac-plaster. The oakum soon led to the use of gauze impregnated with carbolic acid, resin, and paraffin, while a layer of guttapercha tissue prevented the discharge from soaking directly through the dressing. In the Address on Surgery at the Plymouth meeting of the British Medical Association held in 1871 Lister gave a full account of the method he then pursued; in this address we have the first description of cotton-wool employed as a dressing, and the reason for its use is stated to be its power of filtration of minute particles from the air as described by Tyndall. In this paper also we first find the expression antiseptic gauze. In 1875 articles on recent improvements in the details of antiseptic surgery appeared in THE LANCET, and a description was given of the methods of preparing gauze and sponges, while an account was included of the use of boric acid, and some details of drainage were also described. When the British Medical Association met at Edinburgh in 1875, Lister, as president of the Surgical Section, delivered an address on the effect of antiseptic surgery in improving the condition of hospitals, and he gave some demonstrations and performed some operations before members of the Association. In 1881, when the International Medical Congress was held in London, Lister gave an address on the treatment of wounds, in which he re-stated the case in favour of the antiseptic method. The search for even more perfect means led in 1884 to the publication of a paper on the use of corrosive sublimate as a surgical dressing, in which he points out the desirability of having a non-volatile antiseptic if possible. In order to diminish the irritation he combines the corrosive sublimate with the albumin contained in horse serum, and afterwards uses sal alembroth, while later still, in 1889, the double cyanide of zinc and mercury is brought forward as being more useful than corrosive sublimate. A paper read at the International Medical Congress at Berlin in 1890 marks further advances: the spray had been abandoned and less and less antiseptic was being applied to the surface of wounds, so that the amount of discharge was less, and less drainage was needed. A contribution to the Virchow-Festschrift in 1891 reaffirmed the principles of antiseptic surgery, and a short letter to Sir Hector Cameron on some points in the history of antiseptic surgery, written in 1906 and published in THE LANCET in 1908, concludes the first division of this section of the work. The most remarkable of the six papers on general surgery which comprise the second division of the section are one on excision of the wrist for caries, in which Lister describes his well-known operation, and one on the treatment of fracture of the patella, the reprint of an address delivered before the Medical Society of London in 1883. This paper is supplemented by one on fractures of the patella of long standing, which was published only last year in our columns. The article on amputation in Holmes's "System of Surgery" was also from Lister's pen, and is here reproduced.

All the addresses which form the concluding part of the volume are of interest, especially that on the interdependence of science and the healing art, delivered at Liverpool in 1896, in which Lister showed how the whole of the progress of medicine and surgery is dependent on the scientific study of the causes and phenomena of disease. The third Huxley lecture, delivered at Charing Cross Hospital in 1900, contains a *résumé* of Lister's scientific work, and the concluding article, an obituary notice of Lister's father, is of interest, for he did much to improve achromatic microscopes, and his influence on the direction of his son's work was doubtless great. The mass contained in these volumes has compelled us to notice some of the papers rather cursorily, but each is deserving of perusal as the work of a pioneer, and we think that no better memorial of their distinguished author could have been devised. It affords us the greatest pleasure to bear witness to the clearness and the thoroughness with which these papers have been written: their permanent value is assured as a record from year to year of the most important advance in surgery that the world has ever known.

Practical Bacteriology, Blood Work, and Animal Parasitology, including Bacteriological Keys, Zoological Tables, and Explanatory Clinical Notes. By E. R. STITT, A.B., Ph.G., M.D., Surgeon, U.S. Navy; Graduate, London School of Tropical Medicine; Instructor in Bacteriology and Tropical Medicine, U.S. Naval Medical School; Lecturer on Tropical Medicine, Jefferson Medical College. With 86 illustrations. London: H. K. Lewis. 1909. Pp. 294. Price 6*s.* 6*d.* net.

THIS is a small book, of less than 300 pages, in which the author essays to treat of bacteriology, hæmatology, and animal parasitology. It is natural for the reviewer to look askance at such an attempt, but it must be confessed that, within certain self-imposed limits, Dr. Stitt has been singularly successful and has produced a work of real value. It is not a book from which to learn systematic bacteriology, nor is it perhaps suitable for the elementary practical class, but for the man who has had some training in laboratory work, and is able to make use of the short descriptions and many practical hints contained in the work, it will prove extremely useful. The book is described as "practical," and the right to use the adjective is most fully earned. It is founded on the experience of the author gained in examining and teaching candidates for the American Naval Medical Service. This experience, which rests upon a knowledge of the work of medical graduates already to some extent trained, leads the author, we think, to under-estimate the difficulties of the less advanced student, and to regard the book as suitable for a somewhat larger circle of workers than is justifiable.

Perhaps the most characteristic features of the volume are its definiteness of statement and the use made of "keys" or classifications, both for the scientific arrangement of the organisms treated and for the practical purpose of their ready separation and identification. This classification is especially valuable in the section on animal parasitology, as the student usually finds much difficulty in this direction. The practical object of the book is also well served by the illustrations, in which ova, parasites, &c., are arranged in groups for the purpose of comparison and discrimination. The opening section deals with bacteriology and treats of the methods of culture, staining, and identification of micro-organisms. This is followed by a short description of the principal pathogenic organisms, especial stress being laid upon the features which serve for their differentiation. Immunity is discussed shortly in its theoretical aspects, but only as the basis for the practical application of methods for the production of the various agglutinating and hæmolysing sera which are of use in diagnosis. In this section it is to be noticed that the theoretical "side chains" of Ehrlich's hypothesis are spoken of as "protoplasmic particles"; it is a fate which was sure to overtake this conception sooner or later. The section on hæmatology is, so far as its limits allow, accurate and satisfactory. Animal parasitology occupies about half the book, and the information given will prove most useful to medical men working at this subject.

The volume is well printed and well illustrated. It will be especially valuable to medical officers of the naval or colonial service, as well as to the majority of practitioners following their profession in tropical climates.

The Fluids of the Body. (Mercers' Company Lectures.) By ERNEST H. STARLING, M.D. Lond., F.R.C.P. Lond., F.R.S. London: Archibald Constable and Co., Limited. 1909. Pp. 186. Price 6*s.* net.

IN 1859 Claude Bernard published his famous "Leçons sur les Liquides de l'Organisme," which dealt with all the fluids of the body. Professor Starling's lectures—eight in all—are more restricted in their scope, for they deal with the physical properties of protoplasm, osmotic relations of cells, intake of fluid, exchange of fluids and production of lymph, absorption of the interstitial fluids, output of fluid, fluid balance of the body, and the causation of dropsy. The last is an Arris and Gale lecture of 1896, with certain alterations necessitated by recent work on the subject. If protoplasm must be regarded as a fluid, and as consisting of a solution or suspension in water of compounds of very varying complexity, then the energies displayed by living cells must be derived from the energies of substances in solution. They are derivable from, and measurable in terms of, osmotic energy, and of surface energy when occurring at the dividing surface between the living cell and its environment. The available energy of a cell may be regarded as made up of two factors—namely, (1) the total osmotic pressure of all the dissolved substances present in the cell; and (2) the chemical energy of those substances. This is the theme of the first lecture. An interesting account is given of colloids and their importance—their instability, the surface phenomena of colloidal solutions—as the changes in cells take place in a colloidal medium.

The importance of the "Plasmahaut," or superficial layer of protoplasm, in maintaining the "privacy of cell life," and its "qualitative permeability" form an integral part of the lecture on Osmotic Relationships of Cells. The medium surrounding the cells must have a definite osmotic pressure, and this pressure must be supplied by specific salts. The cœlomic fluid—the internal medium of higher animals, representing blood, lymph, and tissue fluid—was probably at its first appearance in the history of its evolution simply an enclosed portion of the surrounding medium or sea-water; and indeed "the three elements sodium, potassium, and calcium are in proportion very much like those that now obtain in sea water." By its means the cells obtain an average constancy of environment. They can thus devote their entire energies to the discharge of their particular functions. The intake of water, regulated through the intermediation of the central nervous system, occurs chiefly in the small intestine; and the cells of the intestinal villi are probably lipoid in character, and therefore physically permeable only by such substances as are soluble in such a membrane—e.g., water, urea, alcohol. The transference of water from the lumen of the gut into the blood stream is effected by forces having their origin in the epithelial cells themselves. The fourth lecture deals with the importance of the "tissue fluid"—which is the real internal medium of the body—and with lymph production. Absorption from serous cavities and from connective-tissue spaces is next dealt with. As to the "output of fluid" (Lecture VI.), the function of the kidney is to keep the composition of the circulating fluid constant, and this organ possesses "in the highest degree the phenomenon of 'sensibility,' the power of reacting to various stimuli in a direction which is appropriate for the survival of the organism." The author next discusses the dual nature of the kidney's activity, glomerular and tubular; and reviewing all the experimental facts, he concludes that they do not negative the view that the glomerular epithelium plays the part of a passive filter in the formation of urine (p. 120). As to the renal tubules they both secrete and absorb, and thus modify the glomerular transudate, not only by the absorption of water but also by the absorption of dissolved constituents. "An absorptive mechanism, sensitive to and reflecting the nutritive condition of the whole body, especially as concerns water and salts, is needed in the tubules" (p. 132). The "fluid balance of the body" is studied under the heads of plethora brought about by increasing the total volume of blood, or by the introduction of normal saline solution—hydræmic plethora; and of anæmia—i.e., a diminution of the total volume of the blood. The guiding principle in regard to the maintenance of the arterial blood pressure is the need of the master tissue of the body—the brain—for a constant supply of blood and oxygen; indeed, the whole vascular system is subordinate in its activity to the needs of the brain (p. 147). The last lecture is a useful corollary to the foregoing, and though we are told that "the causation of dropsy in Bright's disease is at present enshrouded in ignorance," the eighth lecture is one of the most interesting and practical in the whole series.

No one is better qualified than Professor Starling to discourse on the fluids of the body—a subject which his own researches have done so much to advance; and the interest of the reader is maintained, not only by the masterly grouping and orderly arrangement of facts, but by the convincing cogency of the arguments.

LIBRARY TABLE.

Friedberger and Fröhner's Veterinary Pathology. Authorised Translation by Captain M. H. HAYES, F.R.C.V.S., with Bacteriological Notes by Professor R. T. HEWLETT, M.D. Lond., D.P.H. Sixth edition. London: Hurst and Blackett. 1908. Pp. 1433. Two volumes. Price 21*s.* net.—Every up-to-date veterinarian acknowledges this work as the standard text-book on the diseases of animals, and the late Captain Hayes did the profession a very valuable service when he made this translation from the German. When it is mentioned that the book has been translated into French and is accepted as a standard text-book in the French veterinary colleges, it will easily be understood that the opinions of Friedberger and Fröhner are highly valued by veterinary practitioners. There is also an American translation which has had a very extensive sale. It is not, however, only to veterinarians that the book appeals, but to the medical officer of health as well. Apart from the wide view which it gives of the comparative aspect of disease in the various domesticated and wild animals and birds, it touches briefly upon analogous diseases in man, and the opinions given are broad-minded and rational. Especially is it useful to the medical man who is in constant or frequent contact with a veterinary *confrère*, as by a reference to one or other of the volumes he can in a lucid manner and within a very few minutes obtain most valuable information in regard to the contagious diseases of animals and birds. Such diseases as anthrax, tuberculosis, rabies, glanders, trichinosis, actinomycosis, and many others which are communicable to man are fully dealt with, whilst in other diseases, as, for example, diphtheria, scarlet fever, and measles, the pitfalls into which an inexperienced medical man may fall can be readily avoided by a perusal of the paragraphs on these ailments. To single out the description of any one particular disease for special mention and allusion here is quite unnecessary; all are equally well and fairly described, and in a manner which does great credit to the authors. It is a book which every medical man who is at all interested in the diseases of animals should possess and peruse, for it contains a mine of most trustworthy and up-to-date information.

The General Characters of the Proteins. By S. B. SCHRYVER, Ph.D., D.Sc. London: Longmans, Green, and Co. 1909. Pp. 86. Price 2*s.* 6*d.* net.—This "essay" is one of a series of excellent monographs written by an author who has been working steadily at the difficult subject of the properties of proteins, with the object of determining how far they are of value for devising methods of isolation and identification of individual members of the class. The author, however, admits that these methods are still very unsatisfactory—nay, they are even extremely defective in their character. Even the biological methods which are available for the physiologist are beyond the scope of the worker whose only resource is a laboratory for pure chemistry. The physical properties of proteins are first dealt with, such as their solubility, their behaviour on "salting-out," their susceptibility as regards crystallisation and coagulation, their optical relations, molecular weight, electrical conductivity, and fractional filtration. Then follow their chemical characters—e.g., colour and other reactions, their N. S. and P. constituents, oxidative products, and the action of reagents on them. The reader, to profit fully, must read along with this work the two sister volumes on "The Chemical Constitution of the Proteins," by R. H. Aders Plimmer. This monograph will prove most useful as an excellent *résumé* of the subject with which it deals.

Text-book of Experimental Psychology. By CHARLES S. MYERS. London: Edward Arnold. 1909. Pp. 432 Price 8*s.* 6*d.*—In this work the author does not offer a systematic psychology, but a description of the methods and principles of psychological experiment and an exposition of the most important results that have emerged in this field of research. It is at the outset made clear that experimental psychology is no new subject; it is, at least, as old as Aristotle. Far from being independent of general psychology, it has arisen from it as a refinement, while familiarity with general psychology is essential to success in experimental psychology. It is only the possibility of giving a physical expression to mental states which confers on both general and experimental psychology the rank of a science, and this physical expression is obtained by the observation of the subject's outward behaviour, and by the description of the subject's inner experience. A large portion of the book is occupied with a study of the sensations, and the rest contains chapters on statistical methods, reaction times, memory, attention, and kindred subjects. The book concludes with lucid descriptions of the numerous experiments which may be conducted in psychological laboratories. We can confidently recommend the work as a valuable guide for the student of a complex science.

Röntgen Ray Wrinkles. By LESLIE MILLER. Price 1*s.* net.—This little pamphlet may be correctly described as an epitome of the science of x ray photography in so far as the management of the apparatus is concerned. Mr. Miller, who is a practical electrician with a wide experience of x ray procedures, is to be congratulated upon the amount of valuable and accurate information, stated in clear language, that he has succeeded in condensing into such a small space. To the novice it should prove of invaluable assistance in dealing with the numerous pitfalls that impede his progress, and so complete is it that the more advanced x ray worker is almost certain to find new ideas and possibly also help out of an unusual difficulty. We note a point stated by the author which has never been sufficiently insisted upon—namely, that no matter how large the coil may be the discharging pillars should be so placed that the points can never be separated more than eight inches. Working a coil to see *how long a spark it will give is a serious strain* on its insulation and one that should be avoided. The section devoted to x ray tubes is a very good one, and an observance of the directions there given should meet with good results as well as a long life for the tube itself. Here the beginner learns to understand some of the vagaries of the fascinating, but at times very exasperating, sources of the x rays, such knowledge being, of course, the foundation of the successful practice of radiography. The pamphlet may be obtained from the author, at 66, Hatton-garden, London, E.C.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on May 27th, with Dr. F. H. Champneys in the chair. The chairman, referr [illegible] by the Director of Public [illegible] certificates under Section 11 [illegible] medical men amongst others sometimes signed certificates and similar documents without as full an inquiry into the circumstances of the case as was desirable. The chairman said that the Board was anxious to have the abuse stopped, and he hoped that the proceedings would have a salutary effect and that certificates would be more carefully looked into before they were signed. A letter was read from the clerk of the West Sussex county council, suggesting that the local supervising authority should be temporarily enabled to permit uncertified women approved by them to practise as midwives after March 31st, 1910, in certain cases. The Board *decided that the reply should be that there was no* power under the Midwives Act to carry out that suggestion, and that the Boa [illegible] from Mrs L R C [illegible] to quarantine to [illegible] practice of the Metropolitan [illegible] The report of the standing [illegible] hat Mr. A. G. R. Foulerton, medical officer of health of East Sussex, had attended and discussed with the committee the relations between midwives and medical practitioners, and the best means of preventing "covering." The Board decided that the attention of the Midwives Act Committee should be called to the subject.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

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WEDNESDAY, MAY 26TH.

THE Council resumed its sittings at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was in the chair.

Penal Cases.

The Council devoted the whole of the sitting to the hearing of charges brought against medical practitioners.

The first case was that of Robert Kirk, formerly registered as of Delmynden, Carshalton, Surrey, but now of Willington, co. Durham, M.B., Mast. Surg., 1897, Univ. Glasg., who had been summoned to appear before the Council on the following charge, as formulated by its solicitor:—

> That you abused your position as a medical man by committing adultery on various occasions with Laura Sarah Hepple, the wife of Oliver Hepple, when you were professionally attending her and her children, Nellie, Ivy, and Olive Isabel, and that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainant was Mr. Oliver Hepple, who attended, accompanied by Mr. Hempson, his solicitor.

Dr. KIRK did not answer his notice, nor was he represented.

Mr. HEMPSON made a statement relating to the charge and submitted documentary evidence with a view to show that Dr. Kirk had been in medical attendance on Mr. Hepple's family to a very recent date.

After hearing the evidence of Mr. OLIVER HEPPLE, the Council deliberated on the case *in camerâ.*

The PRESIDENT, addressing Mr. Hempson, said: I have to announce to you that the Council have judged Robert Kirk to have been guilty of infamous conduct in a professional respect, and have directed the Registrar to erase from the Medical Register the name of Robert Kirk.

The Council then considered the case (adjourned from May 27th, 1908) of Christopher Richard Kempster, registered as of Whitehall, Bank Place, Collins street, Melbourne, Mem. R. Coll. Surg. Eng. 1896, Lic. R. Coll. Phys. London 1896, who had been summoned to appear before the Council on the following charge, as formulated by its solicitor:—

> That you l [illegible] chief surgeon [illegible] Melbourne a [illegible] to attract pa [illegible] tisements of [illegible] by a portrait [illegible] that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainants in this case were the London and Counties Medical Protection Society, Limited, which was represented by its secretary, Dr. Hugh Woods.

Mr. KEMPSTER did not answer to his notice, nor was he represented by counsel or solicitor.

Dr. HUGH WOODS, who conducted the case on behalf of the complainants, submitted to the Council copies of the newspaper containing the advertisement of which complaint was made. The only point in Mr. Kempster's favour was that to some extent he seemed to suggest that he had been drawn into a contract with the institute in question in comparative ignorance of the nature of it, that he did not in any way approve of the advertisements complained of, and that he was withdrawing from it. He (Dr. Woods) had no proof of this except a slight explanation made by Mr. Kempster himself, and unless Mr. Kempster was able to satisfy the Council that he was unaware of the character of the institute when he made the contract, that he dissociated himself from it at the earliest possible moment, and did all in his power to put his position right, he would ask the Council to find him guilty of the charge now made against him.

Mr. WINTERBOTHAM (the solicitor to the Council) said that attention had been drawn to this case by the Medical Board of Victoria. Communications had passed with Mr. Kempster, who stated that when he entered into the contract he had not anticipated that his name would be advertised in the manner it had. He had had difficulties with regard to it. He also had written to say that he had severed his connexion with the institute. However, he had not broken any local regulations. [illegible]

The Council deliberated on the case *in camerâ.*

The PRESIDENT (on the readmission of the public) said: Dr. Woods, I have to announce that the Council has adopted the following resolution:—

> That the Council do now judge Christopher Richard Kempster to have been guilty of infamous conduct in a professional respect, and do direct the Registrar to erase from the Medical Register the name of Christopher Richard Kempster.

The next case to come up for consideration was that of Charles William Brown, registered as of 7, Chorlton-road, Hulme, Manchester, M.B., Mast. Surg. 1889, Univ. Edin., who has been summoned to appear before the Council on the following charge, as formulated by its solicitor:—

> That you have employed as your assistant in connexion with your professional practice a person not duly qualified or registered under the Medical Acts, namely, Mr. Amery, and have knowingly allowed him on your behalf to attend and treat patients in respect of matters requiring professional discretion or skill, and that in relation thereto you have been guilty of infamous conduct in a professional respect.

The complainant was Mr. Thomas George Paterson, who attended and was accompanied by Mr. Alfred Tarbolton of Messrs. Brett, Hamerton, and Tarbolton, solicitors, Manchester.

Mr. Brown appeared in answer to his notice. He was defended by Mr. A. H. Bodkin, counsel, instructed by Mr. W. H. Martin.

Mr. TARBOLTON, who stated the complainant's case, said that the complaint was made by Mr. Paterson, who when called in as a medical man by a family of the name of Simpson in 1908 was told certain facts. These facts gave him the premonition that Mr. Brown was employing an unqualified man, Mr. Amery, for work on which he ought not to employ him. He disclosed these to the chairman of a local division of the British Medical Association, omitting the name, and when the matter was brought before others connected with it they unanimously said that action should be taken.

Mr. BODKIN (intervening): What we have got to do with is not what 12 medical men may have said or done. I would ask Mr. Tarbolton to confine his statement to something relevant to this charge.

Mr. LUSHINGTON (the legal assessor): Mr. Tarbolton, you had better confine yourself to the matter you are trying to prove.

Mr. TARBOLTON went on to say that Mr. Amery was dispenser and bookkeeper to Mr. Brown. He stated that Mr. Amery had for some time paid visits to the house of the Simpsons to attend Miss Jane Simpson, that medicine was called for at Mr. Brown's surgery, and that both Mr. Brown and Mr. Amery had attended Mr. Simpson, the father, on his last illness. He further said that Mr. Brown's account in the case of the father's illness amounted to 17*s.* 6*d.* The customary charge of a medical man in the locality in question was half a crown a visit, and Mr. Brown made five visits. He also referred to a confinement at which Mr. Amery was alleged to have taken a leading part. He also said that he had statutory declarations to show that at operations which Mr. Brown performed Mr. Amery administered the anæsthetic. He was proceeding to refer to the declaration of Mr. E. A. Burgess, M.R.C.S., L.S.A., who had been a locum-tenent for Mr. Brown, when

Mr. BODKIN (intervening) took objection to the declaration on the ground that it was dated as recently as May 18th, 1909, and although he had invited the complainant's solicitor to produce all essential witnesses Mr. Burgess was not present.

Mr. LUSHINGTON ruled that the declaration should be admitted. The Council had no power to compel the attendance of a witness, but when a person who had made a declaration was not put into the witness-box to be cross-examined counsel was allowed a great latitude of criticism.

Mr. TARBOLTON went on to read the declaration of Mr. Burgess, who alleged that during the time when he was locum-tenent for Mr. Brown he found that Mr. Amery was attending to patients.

Mr. THOMAS GEORGE PATERSON was then called as a witness. He said that he was acting from no personal feeling. He spoke on various points touched in the speech of Mr. Tarbolton. The usual fee for a visit and medicine in the district in which the Simpsons lived was 2*s.* 6*d.* 3*s.* 6*d.* was not a usual charge.

Mrs. MARIANNE SIMPSON also gave evidence and stated that Mr. Amery had come to see her daughter. She had considered that he was a qualified medical man and she called him "Dr. Amery." Medicine had been got at Mr. Brown's surgery. Both Mr. Brown and Mr. Amery had gone to see her husband in his last illness. When she paid the bill of 17*s.* 6*d.* she assumed that it was at the rate of 2*s.* 6*d.* a visit.

Cross-examined by Mr. BODKIN, WITNESS admitted that she took no memoranda of how often Mr. Brown came to see her husband in 1907, but she remembered how often he came.

Mr. BODKIN: I suggest to you that from the first time that Mr. Brown saw your husband to the last, he went to your house five times?

WITNESS: He came three times.

Mr. LUSHINGTON: Did Mr. Brown ever give you medicine personally himself?

WITNESS: No, never.

Mr. LUSHINGTON: During the time that Mr. Amery was seeing your daughter's eyes for four years, did you ever get any bill at all from Mr. Brown?

WITNESS: No.

Mr. LUSHINGTON: There was no other account owing to him except in respect of your husband?

WITNESS: No.

Mr. TARBOLTON submitted statutory declarations from other persons in relation to this case.

At the request of Mr. BODKIN the Council assented at this stage to hear the evidence of two medical men from Manchester on behalf of Mr. Brown.

Dr. THOMAS ARTHUR HELME, honorary surgeon to the Northern Hospital, Manchester, examined by Mr. Bodkin, stated that he had practised in Manchester for 20 years, and last year he was chairman of the Lancashire and Cheshire Branch of the British Medical Association. He had known Mr. Brown for a long time. His opinion was that Mr. Brown was a man of the highest standing in the medical profession and never had there been a breath of suspicion against him as a member of it. He went on to say that the charge of 3*s.* 6*d.* was an ordinary one in the district in which Mr. Brown practised.

Dr. ARTHUR WILSON CHAPMAN, J.P., who stated that he was a member of the Manchester city council, said that he had known Mr. Brown about 20 years. Mr. Brown's character and reputation were of the highest. He (Dr. Chapman) got a fee of 3*s.* 6*d.* a visit in the neighbourhood in question. Only this week he had sent one out at the rate of 5*s.* per visit.

The Council adjourned.

THURSDAY, MAY 27TH.

The Council resumed its sittings at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was again in the chair.

Bristol University Bill.

The PRESIDENT announced that he had received from the Privy Council a copy of Bristol University Bill, which had passed its second reading in the House of Lords. Clauses 7 and 8 of the Bill affected the Council and he thought that it would be desirable to have them placed on record in the minutes. He moved accordingly.

The motion was agreed to. Clause 7 gives the University power to hold qualifying examinations in medicine, surgery, and midwifery for the purpose of granting a diploma or diplomas conferring the right of registration under the Medical Acts. Clause 8 entitles the council of the University to chose one representative to be a member of the General Medical Council.

Penal Cases.

The Council resumed the hearing of the charge made against Mr. Charles William Brown (consideration of which was adjourned from the previous day).

Several witnesses were examined in support of the charge, and this closed the case against Mr. Brown.

Mr. BODKIN addressed the Council on behalf of Mr. Brown, who, he said, was a gentleman of the highest position and integrity in the medical profession in Manchester. The case had not been sent to the General Medical Council by a branch of the British Medical Association in Manchester, for Dr. Helme, whose position had been explained to the Council on the previous day, denied that it had. The charge was that Mr. Brown had been covering an unqualified assistant. In order that he might deal effectively with that charge counsel said that he must state what he conceived it to be. He supposed that it was unprofessional and improper conduct *for a medical man to spread himself out, as it were*, over a larger area of practice than legitimately fell to him, by the employment of unqualified persons and thereby to enrich himself. If that was the true significance of the offence, then he submitted that there was not a tittle of evidence against Mr. Brown in this case from beginning to end. First let him deal with the case of the Simpsons. It appeared that Mr. Simpson, the father, asked Mrs. Amery, the mother of Mr. Amery, to send her son to see his daughter. He refused to go. Mr. Simpson asked again and Mr. Amery consented. He (Mr. Bodkin) would bring evidence to show that from the first time that Mr. Amery attended Miss Simpson to the last, Mr. Brown had no knowledge of the matter. There was never an entry in any single book of Mr. Brown in regard to the Simpsons except with regard to the last illness of the husband. Mr. Brown never saw Miss Simpson in a professional capacity and never knew that Mr. Amery was attending her. A further charge made against Mr. Brown was that he allowed Mr. Amery to administer anæsthetics. Mr. Amery never administered chloroform or ether, nor had he taken any part at a confinement which it was improper he should take. Counsel also commented on the fact that Mr. Burgess did not appear as a witness and submit himself to cross-examination. There was not a particle of evidence against Mr. Brown and he asked the Council to acquit this gentleman of the charges which had been made against him.

Mr. CHARLES WILLIAM BROWN went into the witness-box and spoke in detail with regard to the matters touched on in his counsel's speech. He had employed Mr. Amery for eight years as dispenser and bookkeeper. He had never allowed Mr. Amery to do work which it was not right for him to do. He had never called at the Simpsons before being called in for the illness of Mr. Simpson. He submitted his books to the Council showing that he had paid five visits on this occasion and his charge for those five visits was 17*s* 6*d*. He did not know that Mr. Amery received anything. He (Mr. Brown) attended the accouchement which had been referred to and carried it out. Mr. Amery might have been present with him, but if there had been any stitching of the patient he (Mr. Brown) would have put it in himself.

Mr. BODKIN: Either in this account of 17*s*. 6*d*. or in any other way have you had 6*d*. for the attendance of Mr. Amery on a patient?

Mr. BROWN: Never in my life.

Mr. TARBOLTON briefly cross-examined the witness.

Mr. LUSHINGTON: When you took Mr. Amery did you know anything *about what examinations he had passed?*

Mr. BROWN: No.

The PRESIDENT: Has he passed any examination while he has been in your service?

Mr. BROWN: No, he has not.

Mr. LUSHINGTON: Did you know he was prescribing in a charitable way?

Mr. BROWN: I did not know until November, 1907.

Do you think it proper that he should prescribe even in a charitable way?—Witness was understood to reply in the negative.

Have you told him not to do so?—Yes.

When did you warn him?—I have discussed it with him.

When?—Since this case arose.

Are you satisfied you have put a stop to it now?—Yes.

Mr. WILLIAM AMERY also gave evidence. Replying to Mr. Bodkin, he said that he was a fourth year's student under the old regulations. He had been employed for some years by Mr. Brown as a dispenser and assistant. He had known the late Mr. Simpson for many years and was on terms of friendship with him. Yielding to the pressure brought to bear on him by his (witness's) mother and Mr. Simpson he agreed to attend the latter's daughter for her eyes.

For about four years you attended Miss Simpson and received money for your visits?—Yes.

Was any entry made in Mr. Brown's books of these visits?—Never.

Did you tell Mr. Brown you had attended her?—I do not think so.

Did he know you were attending her?—I do not think he did.

Did you ever attend Mr. Simpson medically or as a doctor?—No.

Did you go one night to see Mr. Simpson?—I did, and I paid, I think, one or two visits to him.

Was any *charge made for these visits?*—No.

How do you determine the 3*s*. 6*d*. visits?—It does not go by streets. It goes more by the people. It was left to me and I just used my discretion in the matter. He had, he added, never administered chloroform or ether to anyone.

The PRESIDENT having intimated that the case for the defence might close at this point,

The Council deliberated *in camerâ*.

When the public were admitted the PRESIDENT said: M. Charles William Brown, I have to announce to you that the facts alleged against you in the notice of inquiry have not been proved to the satisfaction of the Council. That closes the case.

The Council adjourned.

FRIDAY, MAY 28TH.

The Council resumed its sittings at its offices, 299, Oxford-street. Sir DONALD MACALISTER, the President, was in the chair.

New Member.

An intimation was read from the Victoria University, Manchester, announcing that it had appointed Dr. John Dixon Mann to be a member of the General Medical Council for the term of two years from May 12th, 1909.

Appointment of Committees.

On the motion of Dr. NORMAN MOORE, the nominations of the Branch Councils for the various committees of the Council were adopted as follows:—

Examination Committee.—The English Branch Council: Dr. Taylor, Dr. Saundby, and Dr. Caton. The Scottish Branch Council: Sir Thomas Fraser, Dr. Finlay, and Dr. McVail. The Irish Branch Council: Sir John Moore, Sir Charles Ball, and Dr. Kidd.

Education Committee:—The English Branch Council: Dr. Norman Moore, Sir G. Philipson, and Sir John Williams. The Scottish Branch Council: Dr. Mackay, Mr. Hodsdon, and Dr. Knox. The Irish Branch Council: Sir Thomas Myles, Sir C. Nixon, and Dr. Little.

Public Health Committee:—The English Branch Council: Dr. Cocking, Sir William Power, and Dr. McManus. The Scottish Branch Council: Dr. Norman Walker, Sir John Tuke, and Dr. McVail. The Irish Branch Council: Sir John Moore, Dr. Adye-Curran, and Dr. Kidd.

On the motion of Dr. NORMAN MOORE, the following committees were also appointed:—

Pharmacopœia Committee:—The President (chairman), Dr. Norman Moore, *Dr. Barrs, Sir John Moore, Sir G. Philipson*, Sir Thomas Fraser, Dr. Little, Dr. Caton, and Dr. McVail.

Finance Committee:—Mr. Tomes (chairman), Mr. Morris, Sir John Tuke, and Dr. Little.

Dental Committee:—The President (chairman), Mr. Morris, Mr. Tomes, Mr. Hodsdon, and Sir Thomas Myles.

Dental Education and Examination Committee:—Mr. Tomes (chairman), Mr. Morris, Sir Thomas Myles, Dr. Knox, Sir Charles Ball, and Dr. Finlay.

Students' Registration Committee:—Sir Hugh Beevor (chairman), Dr. Norman Moore, Dr. Adye-Curran, Sir John Batty Tuke, Sir Christopher Nixon, and Dr. Mackay.

The Executive Committee.

The following were elected members of the Executive Committee: Dr. Norman Moore, Sir Hugh Beevor, Mr. Tomes, *Dr. Langley Brown, Sir* John Tuke, Dr. McVail, Sir John Moore, and Sir Charles Ball.

The Penal Cases Committee.

The Penal Cases Committee was elected, and consists of the following members: Dr Saundby, Mr. Tomes, Dr. Finlay, and Sir C. Nixon.

Assistant Examiner in Surgery to the Apothecaries' Society.

On the motion of Sir HUGH BEEVOR, seconded by Mr. MORRIS, it was agreed—

That Mr. H. Stansfield Collier, F.R.C.S. Eng., be appointed assistant examiner in surgery to the Apothecaries' Society of London, vice Mr. McAdam Eccles, who retires by rotation.

Pharmacopœia Committee's Report.

The Pharmacopœia Committee reported to the Council as follows:—

From Nov. 23rd, 1908, to May 22nd, 1909, the number of copies of the British Pharmacopœia (1898) sold by the publishers was 402. The total theoretical teaching was required. He remembered, too, that Sir John Simon defended this view. It was largely owing to Sir John Simon that the Diploma of Public Health was instituted, and it was undoubtedly owing to him that the Council got complete control of it. He held that it was not to be a mere slight addition to the knowledge of hygiene that a man acquired in an ordinary medical course. It was to be altogether something special, something quite on a different plane altogether. Everyone connected with public health whom he knew would entirely object to the shortening of the time which must elapse before the diploma was granted. If the time was whittled down to nine months there was little between that period and six months. It would then become a diploma which every medical student might take. He spoke for every member of the Public Health Committee when he said that they entirely objected to anything that would lower the amount of work which was required for it. The amount of work which students did working with medical officers of health should be increased rather than diminished. Sir Charles Ball had explained how the nine months were introduced into this matter. It was with great unwillingness that the chairman of the Public Health Committee of that day, and the members of it, agreed to the introduction of the nine months. It was introduced on the understanding that it was to apply to medical men coming from abroad alone. It was only on account of the necessities of the public service that the committee consented to the concession. Therefore the Council ought not to extend the concession, to which he objected on the grounds of the public interest.

Sir THOMAS MYLES expressed sympathy with the motion of Mr. Thomson. Dr. McVail had said that the nine months concession had been made for the medical man whose work lay abroad. However, it was the case that the man who had spent 20 years abroad had had no opportunity of acquainting himself with modern conditions of work bearing on public health. On the other hand, an enormous amount of public health work was done in the hospitals. The modern student had a very good training in clinical bacteriology and chemistry. This student was to be penalised. The man who had been in the bush in India was to have the advantage of the three months' concession. The case of a young graduate could not be ignored from the monetary point of view. He was bound to be spending money in order to defray his cost of living during the three months. He would join his voice in the protest against any ornamental additional to the time. His objection was to the existence of any ornamental portion of the curriculum.

Sir THOMAS FRASER said it would be extremely unfortunate if at this time the Council reduced the qualifications for this important branch of the profession. They in the north would deprecate any lowering of the standard in this respect.

Mr. THOMSON then moved as an amendment that the report be referred back to the committee. He emphasised the point that it was not his intention to lower the standard. It had got nothing to do with the standard; it was plain, straightforward common sense. If the course could be done in nine months the members of the Council need not demand 12. He knew from those with whom he had discussed the matter that the men found the delay hang heavy on their hands. He should like to have some definite statements with regard to what were the requirements of the six months at the laboratory. Was a man to attend during all the hours of every day? For the reason that he believed the curriculum could be done in the shorter time he thought the men who were taking the diploma had just cause of complaint.

Sir C. NIXON formally seconded the amendment.

Sir JOHN MOORE remarked, in replying to the discussion, that it was a very remarkable circumstance that everyone who was opposed to the adoption of this report was not the holder of a diploma of public health. He himself happened to be the oldest Diplomate of Public Health. He strongly held that the nine months' period was too short. The circumstances which had been revealed by the debate showed how unfortunate it was that any diminution in the Council's requirement should have been made in the case of army medical officers. Sir C. Nixon had quite unconsciously misled the Council a little when he spoke of the position of medical officer of health in Ireland and its requirements. The dispensary medical officers were forced by Act of Parliament to be the medical officers of health for their respective districts. In no instance was it necessary for them to have the additional qualification. When a medical man sought the post of medical officer of health for a district with a population of not less than 50,000 he must produce the additional qualification. He believed that for such a man even 12 months were too short to put him in a position to do his work thoroughly. Sir Thomas Myles had spoken of the clever young student being penalised. The Council was not penalising anybody. It merely wanted to secure that a man should spend 12 months in the study of public health. If the curriculum was completed in nine months after the ordinary medical degree had been obtained the young medical man had time left to prepare for his examination. No man after he took the final examination in his medical course did start studying for the Diploma in Public Health at once. He generally went off on holidays or took six weeks off at Christmas. Thus there might be three months taken away from the 12. It had been remarked in the course of the debate that students were taught bacteriology and chemistry. The students were taught chemistry in their first year and their knowledge of bacteriology was, on the authority of the Council's examiners, often deficient. He hoped that the Council would reject the amendment by an overwhelming majority.

Sir C. NIXON asked leave to make one observation before the amendment was put from the chair. He drafted the syllabus of the curriculum for the Royal University of Ireland and it was adopted. The idea in the mind of the University was that there ought to be two grades of diploma established in connexion with it—a lower grade of diploma representing the requirements of the Council, which would be quite sufficient for the ordinary class of medical officers, and a higher grade of degree, a Doctorate of Public Health. The latter would be specially applicable to public health officers charged with the care of a population of 50,000 or more. He thought that the Council in making regulations for its diploma ought not to be too exacting. It ought to legislate for the rank and file of the profession and not set up an impossible standard. He was satisfied with the requirements necessary in the nine months' curriculum.

The amendment to refer the report back to the committee was lost by a large majority and the report was adopted

Penal Cases.

Penal cases occupied the rest of the sitting.

The Council resumed consideration (adjourned from Nov. 27th, 1908) of the facts proved against William John Watson, in regard to whom the Dental Committee at its meeting on May 24th, 1909, drew up a supplementary report. In it is stated that the committee find upon the evidence that:—

> An unqualified man named Herbert Arthur Frank Potter, who had for some years been in the employment of, and represented himself to be, the said William John Watson, attended a patient of the said William John Watson in November, 1908, but he did not actually perform a dental operation, and the charge made against the said William John Watson of covering an unregistered practitioner was not proved to the satisfaction of the committee, nor was the charge of advertising in the name of another practitioner brought home to the said William John Watson. On the other hand, no evidence other than his own statement was presented to the Committee as to the conduct of the said William John Watson since the matter was before the Council at their session in November last. It was not alleged that any [illegible] had been issued by the said William John Watson in [illegible] ot regard the evidence presented by [illegible] is to his conduct in the interval as satisfactory, seeing that he had still some connexion with the said Potter, who to his knowledge was in the employment of a company called Booth and Co., Ltd., consisting of unqualified persons who continued to advertise from the addresses where Mr. Watson formerly carried on business.

Mr. WATSON attended in answer to his notice, but he was not accompanied by counsel or solicitor.

The complainants (the British Dental Association) were represented by Mr R. W. Turner, instructed by Messrs Bowman and Curtis-Hayward.

Mr. WATSON made a statement on his own behalf and said that he was only anxious to clear himself of this charge. He admitted that he had committed an error of judgment in this case. He would take care not to repeat it.

After deliberation *in camerâ*,

The PRESIDENT said: Mr. Watson, the Council has again given careful consideration to the two reports of the Dental Committee, and has deferred the further consideration of your case to November next, when you will be required to be present in person and to produce satisfactory evidence, and *not merely a personal statement, as to your professional good conduct in the interval, with particular reference to your* [illegible]

[illegible] Nov. 27th, 1908) of the facts proved against Charles Morgan, in regard to whom the Dental Committee at its meeting on Monday, May 24th, 1909, drew up a supplementary report.

In the supplementary report the committee found upon the evidence that :—

> Notwithstanding the undertaking give[illegible] to discontinue all advertisements, the s[illegible]

Mr. Morgan attended in answer to his notice, accompanied by Mr. Arthur P. Poley, his counsel, instructed by Mr. H. Morgan Rees, solicitor, Cardiff.

The complainants were the British Dental Association and were represented by Mr. R. W. Turner.

Mr. POLEY stated on Mr. Morgan's behalf that a letter had been received from the secretary of the London and Provincial Advertising Agency, Limited, consenting to withdraw the advertisement from the curtain at the Empire Theatre, Newport, on certain terms, and asked that the Council would postpone judgment for six months in order that Mr. Morgan might have an opportunity to show that this had been done.

After deliberation *in camerâ*,

The PRESIDENT said: Mr. Morgan, the Council has again given careful consideration to the reports of the Dental Committee, and has deferred the further consideration of your case to November next, when you will require to be present and to offer satisfactory evidence other than your own statement as to your professional good conduct in the interval, with particular reference to your promise to discontinue the issue, direct or indirect, of all advertisements.

The Council then considered the report of the Dental Committee on the charge against Samuel David Davis. The committee found that the following facts were established by the evidence ;—

> [illegible] agreement to devote his whole time to such service and to carry out the directions of the said F W. Bradley or other the directors of the company. The remuneration paid by the company to the said Samuel David Davis is £4 4s. a week and 5 per cent commission on all cash received in respect of orders taken by him. F. W. Bradley, Ltd , is a company incorporated under the Companies Act to take over and carry on a dental practice formerly carried on by *one, Frederick William* Bradley, at 6, Market-street, Wisbech, the Castle, Wisbech, and numerous branches in the eastern counties. The capital of this company is £20 000, the whole of which was issued as fully paid up, and no part of which was paid up in cash; 19,733 £1 shares are owned by the said F W Bradley, 101 by Mary Bradley, his wife, 101 [illegible] Bra[illegible] Bra[illegible] dire[illegible] said [illegible] der [illegible] Wisbech, was carried in the name[illegible] *Claud L. Sutton, surgeon-dentist.* [illegible] but neither of them has practised [illegible]

Mr. Davis appeared in person.

The complainants, the British Dental Association, were represented by Mr. R. W. Turner.

[illegible] his great [illegible] inform you that the Council have given careful consideration to the report of the Dental Committee and that they have judged you to have been guilty of [illegible] in a professional respect an[illegible] erase from the Dentists Re[illegible] Davis.

The Council then took up the consideration of the case of Frederick Joseph Whitehead, which had been referred to the Dental Committee. The committee found that the following facts were established by the evidence :—

> The said Frederick Joseph Whitehead was registered in the Dental Register on the 31st of December, 1878, as "In practice before July 22nd, 1878." His address in the Register for 1909 is Market-street, Wisbech, Cambs. *The said Frederick Joseph Whitehead knowingly and wilfully* [illegible] their employ.

Mr. Whitehead *did not attend nor was he represented* by counsel or solicitor.

The complainants, the British Dental Association, were represented by Mr. R. W. Turner, instructed by Messrs. Bowman and Curtis-Hayward, solicitors.

The Council deliberated on the case *in camerâ*.

When the public were readmitted the PRESIDENT said: I have to announce that the Council have given careful consideration to the report of the Dental Committee and have judged Mr. Frederick Joseph Whitehead to have been guilty of infamous and disgraceful conduct in a professional respect and have directed the Registrar to erase from the Dentists Register the name of Frederick Joseph Whitehead.

The case of Reuben Davis was next considered, in which case the Dental Committee had reported as follows :—

> The said Reuben Davis was registered in the Dentists Register on *Dec. 31st, 1878,* as "in practice before July 22nd, 1878," and his ad[illegible] Sessions of stealing [illegible] pairs of forceps and was sentenced to three months' hard labour. That on Sept. 2nd, 1908, the said Reuben Davis was convicted at the Gloucester Petty Sessions of stealing a watch, money, &c., and was sentenced to two months' hard labour. That on Dec. 31st, 1908, the said Reuben Davis was convicted at the Wigan Petty Sessions of stealing one shirt, two collars, one front, four collar fronts, and one pair of cuffs, and was sentenced to 14 days' imprisonment. The evidence before the committee consisted of certified copies of the several convictions.

Mr. Reuben Davis did not attend nor was he legally represented.

The Council having deliberated in camerâ,

The PRESIDENT said: I have to announce that it having been proved that Reuben Davis has been convicted of various misdemeanours as set forth in the report of the Dental Committee, the Registrar has been directed to erase from the Dentists Register the name of Reuben Davis.

The Council then proceeded to the consideration of the case of Stanley Bennett Wakefield. In this case the Dental Committee submitted the following report. The committee found that the following facts were established by the *evidence :—*

> [illegible] the said Stanley Bennett Wakefield w[illegible] police court of illegal pawn-in[illegible] the value of the pawned go[illegible] imprisonment, and that he [illegible] fraudulent claim.

Mr. Wakefield did not attend nor was he represented by counsel.

The complainants (the British Dental Association) were represented by Mr. R. W. Turner.

The Council having deliberated *in camerâ* the PRESIDENT announced the decision of the Council as follows: "I have to announce that it having been proved that Stanley Bennett Wakefield has been convicted of a misdemeanour the Registrar has been directed to erase from the Dentists Register the name of Stanley Bennett Wakefield."

The Council thereafter considered the case of Thomas Parkins. The report submitted by the Dental Committee was as follows:—

> The committee find that the following facts were established by the evidence. The said Thomas Parkins was registered in the Dentists Register on Dec. 30th, 1878, as "in practice before July 22, 1878." The address in the Register for 1909 is 1, Bexley-square, Salford, Manchester. The said Thomas Parkins lives at Salford, but a dental practice is carried on in his name at Sharrow Head House, Sharrow Head, Sheffield, by his son Charles Henry Parkins, who is an unregistered person who habitually performs dental operations there and signs receipts for accounts paid by patients for work done by him in the name of the said Thomas Parkins.

Mr. Parkins attended in person.

The complainants (the British Dental Association) were represented by Mr. R. W. Turner.

Mr. PARKINS addressed the Council. The business he had conducted, he said, was his own. He admitted his son assisted him in the business under his supervision. He had been teaching his son the business for the last four or five years. He was very sorry the complaint had been made against him. He was totally ignorant of the fact that he was doing anything wrong by employing his son to assist him.

The Council having deliberated *in camerâ*,

The PRESIDENT said: Mr. Parkins, I have to inform you that upon the facts found in the report of the Dental Committee the Council have judged you to have been guilty of infamous or disgraceful conduct in a professional respect and have directed the Registrar to erase from the Dentists Register the name of Thomas Parkins.

Mr. PARKINS: I am sorry to hear that. I think at my time of life it is rather cruel after having been on the Register since the passing of the Act. Is that the best or the worst you can do for me? I feel it very much. Excuse me, gentlemen, making these remarks. I never knew I was doing any wrong. I was totally ignorant of it. I have had a large family to bring up and I have had a great deal to do. It is very hard on me to be removed from the Register now—very hard indeed. You might have allowed me to have one place open.

The PRESIDENT: The case is now closed.

Mr. Parkins then left the Council Chamber.

The Council then considered the case of Thomas Torrens McKendry, registered as of 39, Wellwood-road, Goodmayes, Ilford, Essex, M.B., Bac. Surg., 1894, R. Univ. Irel., who was summoned to appear before the Council on the following charge as formulated by the Council's solicitor:—

> That you have knowingly and wilfully on various occasions, and in particular on Feb. 20th, 1909, assisted one E. C. Dalby, a person not registered as a dentist, in carrying on practice as a dentist by administering anæsthetics on his behalf to persons coming to him for treatment and that in relation thereto you have been guilty of infamous conduct in a professional respect.

Dr. McKendry attended in person.

Mr. Chatelain, the complainant, also attended and called evidence.

Mrs. FLORENCE JANE CHATELAIN, wife of the complainant, said her husband received information to the effect that Dr. McKendry was giving an anæsthetic to a Mrs. Flynn. Witness proceeded to Dalby's house and saw both Dr. McKendry and Mrs. Flynn leave. She knew that Dr. McKendry was not Mrs. Flynn's usual medical adviser.

Mr. WILLIAM RAYMOND BRYAN, secretary to a company, said he had heard that Dr. McKendry had given an anæsthetic in Dalby's house.

Mr. LUSHINGTON: But do you know anything about it except what you have been told?—No.

Did Dr. McKendry tell you?—No.

Mr. CHATELAIN read a declaration by Mr. Richard Henry Stevens, L.D.S. R C.S. Eng., a registered dentist of Ilford, who said he had warned Dr. McKendry against assisting Mr. Dalby by giving anæsthetics to his patients.

Dr. McKENDRY made a statement that he gave gas on the particular occasion alluded to. He was medical adviser to the family of Mr. Dalby, and on one occasion when he visited Mr. Dalby's house he was suddenly asked to give the gas. He was taken by surprise, and, without reflection, unfortunately he did it. He had afterwards told Mr. Dalby that he was annoyed at him for asking him to do this.

After deliberation *in camerâ*,

The PRESIDENT said: Mr. McKendry, the Council has found that the facts alleged against you in the notice of inquiry have been proved to its satisfaction. Before we proceed to judgment we understand you may desire to make some appeal to the Council, and therefore I now give you an opportunity of saying something before the Council proceeds to the next step of pronouncing judgment.

Dr. McKENDRY expressed his very great regret. He was extremely sorry at what had taken place. He gave the Council an assurance that he would never again transgress against the resolutions of the Council in regard to the administration of anæsthetics for unregistered dentists.

After a further deliberation *in camerâ*,

The PRESIDENT said: Mr. McKendry, the Council has postponed judgment until the November session, when you will be required to attend in person and to produce evidence, more particularly from medical colleagues in your neighbourhood, as to your professional good conduct generally in the interval, and in particular that you have not repeated the offence of which complaint has been made.

The Council adjourned.

SATURDAY, MAY 29TH.

The Council resumed its sittings to-day at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was in the chair.

A Committee on Anæsthetics.

On the motion of the PRESIDENT, it was agreed—

> That a committee be appointed to consider the proposals for legislation on the subject of anæsthetics which have been or may hereafter be put forward, to make such representations on behalf of the Council, to the authorities concerned, as may be deemed necessary, and to report to the Council on the position of the subject at the November session. That the committee consist of the President, Mr. Morris, Mr. Tomes, Mr. Hodsdon, and Sir Charles Ball.

The Council then adjourned until Tuesday, June 1st.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 4th, 1831.

There was presented also a case of

PALSY OF THE WRISTS FROM LEAD.

The case was precisely like others that I have alluded to, in the course of the winter, in its symptoms; and it was cured in the same way—by the application of electricity. I never had recourse to electricity in this complaint before this winter, and I certainly have had every reason to be satisfied with it. The man got so well in a short time that he felt able to go to his work, and had no desire to stay here any longer; indeed I believe I may say he got perfectly well. The electricity was diligently applied every day to the wrists, and in the form of sparks. I believe I mentioned before that one man in the hospital satisfied himself that sparks did much more good than shocks in his case. This man was admitted on the 3d of February. He had been working among white lead for nine weeks; his wrists had been paralysed for a fortnight; he was in a few days better. On the 11th he was much better; and on the 17th March he was presented perfectly well.[1]

USE OF THE WHITE AGARIC IN NIGHT PERSPIRATIONS.

DR. BURDACH, of Triebal, has confirmed the opinion, that the white agaric possesses in small doses the property of arresting excessive nocturnal diaphoresis. It is best given to the extent of from four to six grains in the evening, and it may be repeated in the day-time, if the patient be not of an irritable habit. It may be given in the form of a bitter extract made into pills. It has also been successfully used in habitual diarrhœas, in combination with alumn or kino.

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[1] Excerpt from Clinical Lecture delivered at St. Thomas's Hospital, by Dr. Elliotson on March 21st, 1831.

THE LANCET.

LONDON: SATURDAY, JUNE 5, 1909.

The Report of the Education Medical Officer of the London County Council.

THE important and highly practical question of the provision which must be made for the effective treatment of the diseases of school children should rapidly become ripe for complete solution, so various and numerous are the aspects from which it is being observed; and the considerations with regard to it which we have from time to time put forth, or which have been suggested by correspondents, can now be reviewed by the light of an official report of a highly interesting and instructive character, which has been made to the Education Committee of the London County Council by its medical officer, Dr. JAMES KERR. This report covers a period of 21 months, having been carried beyond the ordinary annual limit in order to bring it into unison with the reports of other authorities, and hence it extends from March 31st, 1907, to Dec. 31st, 1908. It shows that at the end of 1908 the medical staff of the Council numbered 52. In addition to Dr. KERR himself there was an assistant medical officer giving his whole time, there were two assistants giving half-time, and eight giving quarter-time, of whom three were women. The statutory medical inspections were carried out by a temporary staff of 16 school doctors, each in charge of a district, and having one or more assistant school doctors, of whom there are 24. It has been decided to increase the staff by the addition of 16 assistant school doctors in the summer and by another 16 in 1910, so that ultimately there will be 72 members of this temporary staff giving quarter-time, and each appointed for a term of three years. For the routine inspection the teachers are asked to name all the children who are known to them as presenting any abnormality except defective vision; and the doctor sees these children and notes any cases presenting defects of hearing, brain, speech, limbs, or nutrition, and leaves a card with the teacher for each child requiring treatment. The doctor then goes over the school and notes its general condition and that of the children, the hygiene of the work, and any other matters which affect the health of either teachers or scholars, as well as the general development of the latter. The routine with regard to the eyesight of the children may be specified to show the thoroughness of the procedures employed. The vision of all the children is tested once in 12 months, in one-half of the schools in April, and in the other half in September. The preliminary test is done by the teacher, and the names of all children in Standards I., II., III., and IV. whose vision is $\frac{6}{12}$ or worse, and of children in standards V. and above, whose vision is $\frac{6}{9}$ or worse, are placed on a form provided for the purpose. When the doctor visits the school he examines these children and gives the teacher a red or a green card, according to the amount of defect, for each child who should seek advice. These cards are at present distributed to the children a few at a time, "so as not to cause inconvenience to the hospital authorities," a striking commentary upon the suggestion that these same hospitals might deal with the cases collectively.

The general results of the medical examinations are stated in respect of two periods, one of 12 months from April 1st, 1907, to March 31st, 1908, the other of nine months, from April 1st to Dec. 31st, 1908, and it is not quite clear to what extent the figures may cover the same children. During the first period there were 270,749 children on the roll, and during the second 112,685; but it does not appear whether a correct total for the whole period would be reached by adding these figures together. In respect of the morbid conditions found, however, the totals may almost certainly be added, and they come out as follows. 50,422 children were specially examined and 3601 were reported by their teachers on account of defective vision (apart from the results of the general vision testing mentioned above), 3137 on account of defective hearing, 2356 for imperfect speech, 6278 for physical and 2406 for mental defect. Of these totals the doctors reported that 11,678 children "*required treatment urgently*" and that 886 required "transference to a special school." During the same period 4022 children were selected individually from their classes and reported on for external (and presumably in many cases infectious) diseases of the eye, 5552 for throat or nose affections, 1698 for ear disease, 306 for "excessive dirt," and 2713 for "other defects." The results of the systematic vision testing are rendered somewhat difficult to analyse by the fact that they also deal with two successive periods which must to some extent embrace the same children, and we will therefore refer to the second period only, the last nine months of 1908. In the returns for this period the higher elementary schools are included, and the figures embrace 313,415 children, of whom 29,326 were reported as having defective sight by their teachers, whose opinions in 20,584 of the cases were confirmed by the ophthalmic surgeons. Dr. KERR estimates the number of cases of defective sight among the whole of the London school children at about 60,000. He also declares that there is a great prevalence of dental caries, for the treatment of which the existing provision is wholly inadequate; that nearly 3000 children are suffering from ringworm, with a consequent loss of some £6000 a year in grant; and that about 7500 children are suffering from suppurating or discharging ears, a condition which, if neglected, frequently produces deafness or defective hearing, and sometimes consequences dangerous to health or life. He also points to a large number of children living in insanitary conditions and to numerous cases of tuberculosis (numerous in the aggregate but not when regarded as a percentage of a vast crowd), in which the consequent debility renders the pupils unable either to profit by instruction in school or to continue their attendance without further deterioration.

In view of the mass of disease and misery thus disclosed to view, it is obviously impossible for the community to rest content with a policy of inaction or with anything short of an endeavour to rescue as many as possible of these poor children from the dangers by which they are surrounded, and which are increased to an indefinite degree both by the aggregation which the maintenance of the school system requires and, especially in the case of defective vision, by the very processes of teaching. The children have a definite moral right to be protected against injury forced upon them under the form of benefit; and, both for their own sakes and for the sake of the generation in which they will eventually take their places as mature elements, it is necessary that the physician should play his part, and equally necessary that in so doing he should receive the hearty coöperation of the teacher. Dr. KERR assigns weighty reasons for his belief that the necessary protection can only be afforded by placing the whole life of the child during school age, say from three to 15, under the control of a wisely guided education authority, by which all relating to the feeding, teaching, cleansing, medical treatment, or social protection of children, when these matters become a public care, would be administered, and by which the overlapping of authorities, with its consequent costliness and inefficiency, would be avoided. It is manifest, even from the figures which we have quoted, that the medical treatment is an immediately pressing matter, and we have already referred to the apprehension expressed by many correspondents that an attempt would be made to throw this work upon the hospitals and to add to the existing "abuses" of these institutions a new one which would cast all others into the shade. We are informed that certain London hospitals have already been approached by the London County Council and are even now coquetting with that body in the hope of effecting some "arrangement"; and we hear also that a prospect of pecuniary subsidies has been held out to the hospitals in question. Some day, perhaps, we may come to the municipalisation of the hospitals, and then if the community benefits the medical profession may expect to benefit in proportion. But we have not yet arrived there, and it is the duty of our hospital authorities to protect the charities and the medical profession from exploitation. The matter is one on which the opinion of the medical profession will, we think, be unanimous, and we hope that the staffs of the great hospitals will lead the way in giving expression to that opinion and in emphatically declining to lend themselves to any premature scheme. The necessity for systematic medical care of the children has largely arisen from Parliamentary enactments, the full effect of which, it may be freely admitted, was not foreseen by those who passed them, but for which, nevertheless, the nation is responsible in such a sense that it should not be permitted to cast the consequent cost upon the shoulders of charities maintained by voluntary contributions for the accomplishment of totally different purposes. The business of our great voluntary hospitals is to deal with severe disease or accident among the poor, to promote the growth of medical and surgical science, and to afford the conditions necessary for the conduct of medical education. To employ hospital officers in the routine treatment of thousands of cases of school illness would be to divert them from their proper duties, and cannot be done without serious injury to science and to the public The medical profession has a distinct claim to receive suitable recompense for the work; and the endeavour to cast it upon the already over-burdened and often inconveniently situated hospitals needs only to be understood in order to be condemned. There is no doubt, however, that such an endeavour has at least been in contemplation, and the profession should lose no time in expressing its views upon the subject.

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The Early Recognition of Uterine Cancer.

THE Council of the British Medical Association has recently approved of appeals to promote the earlier recognition of cancer of the uterus being issued to medical practitioners and to midwives and nurses. In these appeals, which were published in the issue of THE LANCET for May 15th, p. 1408, the fact is pointed out very strongly that cancer is at first a purely local disease and one curable by operation. The responsibility which a medical practitioner incurs if he fails to make a physical examination in any case presenting symptoms of cancer is very great, and the treatment of such symptoms without an examination is quite unjustifiable. Unhappily, in only too many of these cases the fault lies with the patients themselves. It is not that the medical man fails to recognise the presence of the disease, but that the patient postpones seeking medical advice until all possibility of the complete removal of the growth has gone. The results which recently have been obtained by the adoption of the more radical and extensive method of removal of the uterus by the abdomen are most encouraging. Not only has the percentage of operable cases increased to a very marked degree, but the total number of cases cured—that is, which remain free from recurrence after five years—is very striking. If it were possible to ensure that all women who present any symptoms of uterine cancer should seek medical advice at the very earliest opportunity after the appearance of such symptoms, there can be no question that even better results could be obtained. Whatever the future may have in store with regard to other possible means of treating or of preventing cancer, the removal of the growth by operation is often the only method of cure applicable at the present time.

The crusade which has been carried out in Germany for the purpose of disseminating amongst the laity a better knowledge of the early symptoms of this dread disease has met with most encouraging results. Unfortunately, in this country the method which the German authorities have adopted of publishing short paragraphs in the lay press, for the purpose of instructing all women in the early symptoms of uterine cancer, is quite impracticable. In these circumstances the plan adopted by the Council of the British Medical Association in issuing appeals addressed to medical men, and more particularly to midwives and nurses, is no doubt the best that can be devised. At the same time we cannot but regret that the committee appointed by the

June 5, 1909.

THE LANCET

SPECIAL SUPPLEMENT

IN SUPPORT OF THE

METROPOLITAN HOSPITAL SUNDAY FUND

Published in aid of the Appeal to be made on Sunday, June 13th, 1909.

> "See the wretch that long has tost
> On the thorny bed of pain,
> At length regain his vigour lost
> And breathe and walk again"—GRAY.

AGAIN we appeal to the benevolent public on behalf of the Metropolitan Hospital Sunday Fund and of those great institutions for the aid of which it was established nearly forty years ago. We address ourselves to those whose forefathers founded the hospitals of London, and bequeathed them to their descendants as an incentive to charity and as an example to the world of what the goodwill of great-hearted men and women can achieve on behalf of their fellows; and we have confidence that the response, as in past years, will be a generous one. The hospitals and their necessities are always with us. The Metropolitan Hospital Sunday Fund is no new institution. Only those who are grey-headed among us can rely upon personal recollection for the story of its inception, and that which, no matter its urgency, is ever before our eyes, or of which we are reminded with regularity at stated periods, is apt to be overlooked in favour of newer or more insistent claimants of our attention. We ourselves are repeating demands and are possibly about to lay stress upon arguments which we have urged before; but we hope that our readers will not forget that the need for their assistance is never less but rather greater as the years move on. The changes that they have recently brought about, and which they continue to bring, if we pause to realize them, make ever for increased efficiency, and call for means to cope with the needs of a larger but not less necessitous population. For more than twenty years the proprietors of THE LANCET have caused this Annual Supplement to be devoted to pleading the cause of the Fund, and ever since its first appearance it has been regarded as a feature of special importance in the annual programme of their paper. No one took a keener interest in it and in the success of the Hospital Sunday Fund than Mr. Thomas Wakley, whose death took place last March, after he had been sole Editor for but two years. Before this he had been joint Editor with his father since 1887, and from that date a special supplement issued, as to-day, on behalf of the Metropolitan Hospital Sunday Fund has been published in our columns.

Mr. Wakley was also a member of the Committee of the Metropolitan Hospital Sunday Fund, as were his father and uncle before him, and like them took a practical and personal part as well as a keen interest in its organization. So that in him the hospitals as well as ourselves have lost during the past year a firm and helpful friend.

Whatever blows, however, time may inflict upon us, and whatever changes we may have to record from year to year when we survey the incidents that the past twelve months have brought about, the continuity of the work of the hospitals around us in the metropolis is never broken, the stream of human suffering flows towards their gates in unabated volume, and the Metropolitan Hospital Sunday Fund has ever to reiterate its claim for that financial help without which good will and good work can effect but little. It appeals to all. Wealthy friends help it each year to maintain its high level of success; but it must be on the countless smaller offerings of the many that in the first place it should rely. The tables which we publish include the names of generous individuals who have given thousands of pounds in single donations, and they are names which should never be forgotten when the hospitals and their supporters are spoken of. It is to others, however, rather than to these that we address ourselves in these pages. They know the circumstances of the hospitals and the meaning of incessant strain upon narrow means, and their minds will be made up to assist without needing to be stimulated by us. It is therefore more especially to the wider mass of readers that we appeal on "Hospital Sunday." On that day, or on the preceding Saturday if they be of the Hebrew Faith, we urge them to give their alms at whatever place of worship they may attend, and we ask them to do this to the full extent of their ability. We also express the hope that they will not allow any of their friends, who may not intend to be present at a place of worship where a collection is made, either to forget or to ignore the appeal. Every shilling is wanted, and every shilling denied must mean of necessity some corresponding denial of relief to a poor sufferer, although neither he who withholds his gift nor anyone else can ever gauge or define the effect of the omission. It is for the lessening of human suffering that the money contributed is bestowed, and of suffering not limited to the bodily pain felt by the individual who seeks medical or surgical aid at the hospital. He or she in any given instance may be the father or mother, son or daughter, on whom the household depends to earn the wage that keeps the wolf from the door. If he be a child, he will be one who some day will need to win for himself a living which will probably be proportionate to the health and strength which he enjoys, and the money spent on alleviating the bodily ailment of such a child in the present will carry with it the saving of him from more bitter pain in the future. If it helps him to grow up to sound manhood, as well it may do, thereby enabling him to become a healthy and useful citizen, it will prove itself an investment on behalf of the community bringing in profit a hundredfold.

The State and the Health of its Citizens.

This aspect of the provision of medical aid for those who cannot afford to pay for it well merits the consideration of those who are already aware of the benefit which the hospital confers on the individual in alleviating his personal pain and in restoring him to health. It has been brought before us during the past few months by the publication of the Report of the Royal Commission on the Poor Laws and the Relief of Distress, which, while concerning itself mainly with the medical assistance rendered by the community to the individual and paid for out of the rates, has also had to consider the present and future condition of hospital work. The Report contains valuable criticism of the system under which rate-provided and voluntary medical relief are furnished to the necessitous, and in that criticism and in the suggestions made for the co-ordinating and organizing of both the rate-provided and the voluntary schemes the object kept in view is always the advantage to the community of maintaining in health the army of workers of all classes, the prevention rather than the cure of disease, and [illegible] the world and rearing of a race of [illegible]. In speaking of the hospitals, the Commission testifies to the great developments which have taken place in them since the early part of the last century, and points out that since then "the growth of operative surgery has increased the demand for hospital treatment, and in spite of frequent extensions of hospitals the demand is still in excess of the accommodation." The history of hospitals in connexion with poor-law infirmaries is traced through the time when the poor-law guardians had to send to the hospitals all cases needing special treatment and surgical operations, to the present day, while now the great difficulty the hospitals have to contend with is the elimination of those cases applying for admission to them which would more appropriately be treated in the workhouse infirmary. At present, it must be remembered that the hospitals stand between the sick poor and pauperism—the aid they give is the free gift of the richer to the poorer, and its acceptance brings with it no slur or disability. Increased usefulness and influence is suggested for the hospitals in the future when, if the central recommendation of the Commission is carried out, there will be a "Medical Assistance Committee" in every district, on which the voluntary hospitals will be represented, so that "overlapping" may be avoided, so that the help of the hospitals may be secured to those whose need is sorest, and so that their fullest possible effectiveness may be made certain. Meanwhile, they will continue their work with patience and energy, relieving pain and restoring the toiler to health, conscious that any change [illegible] them will in all probability be long [illegible] so with the knowledge that the work of restoring the poor to health in whatever class of institution it is being carried out is conducted in emulation of their example, under the direction of men trained in their schools.

The supporters also of the Metropolitan Hospital Sunday Fund in the past, as well as those who now first subscribe to it, will be aware that the work of organizing economically medical aid for the poor, the necessity for which the Commission dwells upon with such emphasis, will include the very services which the Fund, as a pioneer, has rendered already so far as its powers have permitted. It has distributed assistance systematically, after acquiring full information with regard to the means and conduct of each institution to which it has allotted the money subscribed by its contributors. It has not only preached economy and careful administration, but has insisted upon them; and those who have brought their offerings to it have had the certainty that they have contributed to a system which has typified method and order in the distribution of charity, promoting the generous relief of suffering without niggardliness, but also without waste.

The Promise of a more effective Ambulance Service.

The Report of the Poor Law Commission does not stand alone, however, as the result of an official inquiry into the needs of the poor in sickness made known during the past year. An investigation directly affecting the hospitals of London, with a view to making their work more effective, was ordered by the Home Secretary at the end of 1906, and was entrusted to a departmental committee composed of three members who were requested to inquire as to the provision made for dealing with cases of accident and sudden illness occurring in streets and public places in the metropolis. They were to express their views as to what improvements in ambulance provision were necessary or desirable, and as to how such improvements could best be brought about with due regard to efficiency and economy. With the details of the Committee's recommendations we are not here concerned, but we may note, as relevant to the case of the hospitals in any appeal for help, that it found itself obliged at an early stage to prosecute its inquiries far beyond the strict terms of the reference which has been set out above It soon became obvious that an ambulance service to be effective must bring to the hospitals cases of accidental injury and of ill[illegible] the limits of the County [illegible]ropolis" proper, and accord[illegible] of the wider area under [illegible]lon Police were considered and discussed It was urged also on the Committee that cases appealing for means to reach the hospitals quickly and safely were not confined to those accidents and onsets of illness which are constantly occurring in streets and public places The Committee decided that the service must be at the disposal of *those injured or suddenly taken ill in a* factory, at a railway station, or in a humble home, and of those lying ill in such places and surroundings as preclude the possibility of proper treatment and nursing These extensions of scope have introduced difficulties as to the proper authority under which any ambulance service should be placed, but they also made it abundantly manifest that the newly-perfected means of mechanical propulsion must be taken into consideration and that the "rapid ambulance" so desirable in the majority of cases would probably have to be summoned by a well organized system of telephonic communication Such a service for bringing accidents and illness to the hospitals speedily and efficiently by means of locomotion rapid enough to nullify the inconvenience of a *long journey would be quite obviously an immense* boon to the sufferers treated, but to provide it is beyond the powers of the hospitals themselves Its provision would have to include not merely the purchase of vehicles of a costly character, but also the housing and maintaining of them, and of the necessary staff of drivers and attendants, together, possibly, with the institution and upkeep of call boxes, and the making of arrangements for the use of public and private telephones according to need All this is outside the sphere of the hospitals, which will see with satisfaction the establishment of an Ambulance Service, but will see also that it will not lessen the strain upon their resources—it will increase it Cases which are now not brought to them because the distances to be traversed are too great and the means of transport are insufficient will arrive urgently demanding admission, with the result that the institutions which already have more to do than they can accomplish will be systematically "fed" with patients as if they had "asked for more" In the prospect, *therefore, of an* Ambulance Service worthy of London and of modern civilisation we see proof of public esteem for the good work done by the hospitals, the certainty that the suffering of the sick *and injured* will be lessened, and at the same time, one more reason why the Metropolitan

STATISTICS OF HOSPITAL WORK IN LONDON DURING THE YEAR 1908

TABLE I —GENERAL HOSPITALS.*

N B —The figures referring to out patients in these Tables represent the number of VISITS *paid by out patients—*NOT THE NUMBER *of out patients*

Name of hospital	Hospital Sunday Fund award	In patients	Relieved	Cured	Convalescent homes	Remaining under treatment	Died	Out patients visits	Accidents and emergencies
	£								
Charing Cross	1 530	2,178	1 017	987	237	120	178	7 477	10 678
French	399	910	278	532	243	60	30	15 345	2 093
German	709	1 547	408	893	245	121	126	69 878	5 368
Great Northern Central	1 260	2,374	1 858		150	153	213	78 817	11 0[illegible]7
Guy's	1 575	8,565	6 841		840	535	701	4[illegible]6 6[illegible]2	83 63[illegible]
Hampstead General	3[illegible]7	851	—	—	—	74	62	48 6[illegible]3	[illegible]
Italian	225	7[illegible]5	135	620	30	49	10	22 [illegible]57	2[illegible]6
Kensington General	247	17	—	17	—	—	—	24 [illegible]65	1 [illegible]7
King's College	1 600	2 482	730	1 212	245	157	166	41 [illegible]54	[illegible],413
London	6 300	14 781	5,625	6 292	2 119	799	1 423	607 271	1[illegible]2 346
	495	1 0[illegible]6	1 001		—	81	54	40 763	2,035
	52	197	37	67	3	12	7	2 403	17
	775	1,4[illegible]1	418	674	[illegible]	89	1[illegible]0	26 8[illegible]3	13 4[illegible]4
	1,1[illegible]5	—	—	—	—	—	—	—	—
"	335	585	133	363	101	29	32	37 009	[illegible] 159
Miller Hospital and Royal Kent Dispensary	470	353	94	218	7	22	30	74 255	10 217
National Anti Vivisection	—	197	53	139	6	[illegible]0	5	23 629	1 451
North West London	41[illegible]	—	—	—	—	—	—	—	—
Poplar	546	1 [illegible]97	—	—	67	[illegible]1	85	80 5[illegible]	—
Tottenham, Prince of Wales	757	1 513	250	902	20	93	1[illegible]9	93 422	—
Royal Free	1,4[illegible]	2,218	1 923		242	142	148	101 741	24 597
St George's	582	4,389	2 710		1 300	335	379	113 190	2[illegible] 16[illegible]
SS John and Elizabeth	371	494	452		—	—	31	—	—
St John's Lewisham	197	309	61	172	47	2[illegible]	24	1 395	30[illegible]
St Mary's	2 610	4 059	1 294	2,029	307	2[illegible]0	340	133 972	25 [illegible]27
St Thomas's	[illegible]19	—	—	—	—	—	—	—	—
Seamen's Hospital Society	1 655	2,121	559	812	—	257	157	101 605	13 14[illegible]
	2 700	5 596	3 075		1 253	397	322	123 615	[illegible]
	2 554	3,754	1,113	1 597	344	2[illegible]1	327	133 2[illegible]9	30,3[illegible]
	152	491	52	336	—	33	98	12 [illegible]41	1 971
	325	770	124	517	—	[illegible]2	77	[illegible] 450	5 61[illegible]
West Ham	602	583	170	268	20	40	63	109 785	12,[illegible]
West London	1 277	2,495	2 155		151	143	241	135 [illegible]69	22 170
Westminster	1 429	2 655	2 241		3[illegible]8	179	243	71 374	9 55[illegible]
	£35,253	70 [illegible]94	13 000	12 [illegible]97	8 4[illegible]3	4 [illegible]4	5 866	2,[illegible]2 110	535 725
Estimated to supply omissions	—	79[illegible]0	10 423	18,531	1 2[illegible]1	606	854	137 424	[illegible]8,46[illegible]
Total	£3[illegible]	72,9[illegible]	23 420	37,[illegible]28	[illegible],713	5 2[illegible]0	6 720	3 12[illegible] 531	[illegible] 18[illegible]

* We reproduce the term "General Hospitals" as employed by the Council of the Metropolitan Hospital Sunday Fund

Hospital Sunday Fund should retain and secure the hearty support of all.

The Children Act, 1908.

An important statute passed for the protection of children has recently come into force, which, although it cannot be said to affect the Hospitals directly, testifies indirectly to the desire of the nation to safeguard the health of the young and thereby to increase the usefulness of its citizens, and must also tend to increase the demand for hospital accommodation for children. In particular it makes the neglect punishable by law when a parent or other person legally liable to maintain a child shall fail to provide the child with adequate food, clothing, *medical aid* or lodging, or if being unable

TABLE II.—SPECIAL HOSPITALS.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
City of London for Diseases of Chest	900	1,310	1,098		—	152	60	57,351	—
Hospital for Consumption...	3,420	1,367	984		292	315	82	46,059	—
Mount Vernon Consumption	1,530	367	—	—	—	216	19	12,950	—
Royal Hospital for Diseases of Chest		717	580		24	76	61	25,596	—
Royal National Sanatorium	113	420	416	—	—	—	2	—	—
Royal National Hospital for Consumption...	337	831	—	—	—	150	7	—	—
Alexandra Hospital for Hip Disease	433	178	13	53	5	110	7	1,250	—
Banstead Surgical Home	39	36	6	14	—	18	—	—	—
Barnet Home Hospital	62	52	32	10	—	14	—	—	—
Belgrave Hospital for Children	225	—	—	—	—	—	—	—	—
Cheyne for Incurable „	146	71	3	11		50	6	—	—
East London Hosp. for „	1,007	2,047	404	902	362	110	404	89,690	4,627
Evelina Hosp. for Sick „	225	889	703		54	63	189	58,302	—
Home for Incurable „	84	59	12	—	—	44	3	—	—
Home for Sick „	171	314	—	—	118	44	18	3,860	—
Hospital for Sick „	1,097	3,265	1,207	1,276	-	184	409	105,481	—
Kensington Hosp. for „	96	167	148		—	11	10	20,482	903
Paddington Green for „	337	778	654		197	33	91	53,270	1,515
Queen's Hospital for „	1,001	1,734	250	1,052	28	137	334	74,121	12,834
Royal Waterloo Hosp. for Children & Women	203	604	66	288	16	85	76	34,533	—
St. Mary's Hospital „ „	326	645	111	481	—	18	38	18,257	15,473
St. Monica's Hospital „ „	96	131	109		—	20	2	—	—
Victoria Hospital „ „	844	1,069	295	504	515	72	143	68,842	1,271
Victoria Home, Margate	45	122	46	27	—	48	1	—	—
Hospital for Hip Disease	56	62	—	22	2	38	—	—	—
British Lying-in	119	535	533	—	33	24	2	5,184	—
City of London Lying in	200	802	799	789	10	31	3	29,397	—
Clapham Maternity	45	—	—	—	—	—	—	—	—
East-End Mothers' Home	84	498	490		8	20	—	15,570	—
General Lying-in	101	837	—	832	—		5	21,470	—
Plaistow Maternity	68	110		107	—		1	—	—
Queen Charlotte's Lying-in	579	1,865	1,722		135	—	8	21,690	72
Home for Mothers and Babies...	45	152	—	—	—	5	—	1,652	—
Chelsea Hospital for Women	343	754	675		225	46	12	9,912	—
Hospital for Women	501	1,006	343	480	84	55	13	14,715	337
Grosvenor Hosp. for Women and Children...	208	415	138	242	—	21	14	15,350	—
New Hospital for Women	399	752	—	—	—	54	—	33,086	—
Samaritan Free	456	773	107	558	150	45	18	15,047	—
Cancer	—	823	713		47	83	114	14,500	—
Middlesex (Cancer Wing)	293	178	—	—	—	47	—	437	—
London Fever	337	712	—	662	60	—	20	—	—
Gordon for Fistula	51	323	10	311	—	14	2	5,412	—
St. Mark's „	293	523	39	426	—	29	5	6,033	—
National for Diseases of Heart, &c.	191	173	141		—	25	7	21,804	—
Female Lock	281	379	373	—	3	126	—	—	—
Hospital for Epilepsy, &c.	236	228	210		—	39	4	9,806	—
National for the Paralysed, &c.	1,091	958	520	151	55	156	39	51,233	—
West-End for Nervous System	473	435	309	51	37	67	8	20,964	—
Central London Ophthalmic	197	408	400		1	15	1	28,002	546
Royal Eye	360	598	577		—	21	—	68,890	2,135
Royal London Ophthalmic	1,249	2,331	2,242	—	10	83	6	120,366	2,024
Royal Westminster „	186	711	704		6	21	1	36,580	510
Western „	118	370	230	140	—	6	—	25,647	—
Royal National Orthopædic	225	537	448		—	87	2	11,367	—
Royal Sea Bathing Hospital	214	476	310	88	—	141	16	3,011	—
St. John's Hospital for Diseases of Skin ...	56	314	—	—	—	28	—	38,126	—
St. Peter's for Stone	135	509	—	—	—	27	26	39,169	—
Central London Throat and Ear	19	707	665		3	20	19	51,200	—
Hospital for Diseases of Throat	17	793	39	714	9	25	6	48,760	13
London Throat	28	489	483		12	6	1	14,740	—
Royal Ear...	52	300	300		—	—	4	10,721	—
Royal Dental	416	—	—	—	—	—	—	57,960	—
National Dental	34	—	—	—	—	—	—	26,342	—
	£23,106	40,009	8,860	10,191	2,510	3,387	2,319	1,564,187	42,290
Estimated to supply omissions	—	799	5,982	8,945	415	185	183	35,542	11,244
Total	£23,106	40,808	14,842	19,136	2,925	3,572	2,502	1,599,729	53,534

otherwise to obtain these things he fails to take steps to procure them under the Acts relating to the relief of the poor. We all know the reluctance of the working classes (and of many who work but little) to have recourse to the guardians, and also the restrictions and conditions which attach to poor-law relief; and it is not d[illegible] which existed befor[illegible] a sick child is now [illegible]

enforced, the tendency will be to bring children more often to the hospital and to endeavour to obtain for them treatment as in-patients or as out-patients when there is any risk that the omission to do so may be visited with penalties. We have no wish to labour our point or to carry our argument further than it will lead us naturally and obviously. We maintain, however, that the direction of modern feeling as evinced in the inquiries of the Poor Law

TABLE III.—COTTAGE HOSPITALS AND CONVALESCENT HOMES.

Name of hospital.	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits.	Accidents and emergencies
	£								
Metropolitan Convalescent (Walton)	478	2,850	1,370	1,231	—	63	8	—	—
„ „ (Broadstairs)	304	1,812	554	1,183	—	69	1	—	—
„ „ (Bexhill)	574	2,864	407	2,282	—	62	3	—	—
All Saints' „ *(Eastbourne)*	*450*	*3,267*	*881*	*2,292*	—	*117*	*2*	—	—
„ „ (St. Leonards-on-Sea)	28	216	93	119	—	9	—	—	—
Ascot Priory „	96	234	218	—	—	35	1	190	42
Brentwood „	11	144	—	—	—	—	—	—	—
Charing Cross Hospital Convalescent	73	511	—	506	—	20	2	—	—
[illegible]	51	307	307		—	16	—	—	—
[illegible]	39	—	—	—	—	—	—	—	—
[illegible]	20	134	—	—	—	—	—	—	—
[illegible]	96	725	—	—	—	—	—	—	—
[illegible]	112	1,214	—	—		12	—	—	—
[illegible]	34	157	132	14	—	30	—	4,892	—
[illegible] „	14	187	—	—	—	12	1	—	—
Hastings Fairlight „	32	194	160	—	—	21	1	—	—
Hendon, Ossulston Home	64	—	—	—	—	—	—	—	—
[illegible]	22	516	278	166	—	48	—	—	—
[illegible]	67	457	—	—	—	—	—	—	—
[illegible]	17	212	211	—	—	2	—	—	—
[illegible]	31	445	118	316	—	11	1	—	—
[illegible]	56	344	343	—	—	—	1	—	—
[illegible] „	81	183	48	129	—	13	—	—	—
[illegible]	67	189	—	—	—	—	—	—	—
[illegible]	51	962	—	—	—	18	—	—	—
[illegible]	112	706	—	—		56	5	—	—
[illegible]	202	2,245	—	—	—	82	—	—	—
St. John's Home for Convalescent Children	22	310	—	—	—	87	—	—	—
St. Joseph's Convalescent	56	564	394	131	—	33	3	—	—
St. Leonards on-Sea „	113	898	—	—	—	44	—	—	—
St. Mary's „	26	104	—	—	—	7	—	—	—
St. Michael's „	39	315	—	—	—	—	1	—	—
Seaside „	169	—	—	—	—	—	—	—	—
[illegible]	91	211	185		—	9	15	11,243	—
[illegible]	92	243	31	196	—	12	17	627	100
[illegible]	90	169	16	125	13	12	12	5,493	61
[illegible]	137	—	—	—	—	—	—	—	—
[illegible] „	43	169	25	120	3	12	9	42	—
Canning Town „	84	—	—	—	—	—	—	—	—
Chislehurst, Sidcup, &c., „	73	—	—	—	—	—	—	—	—
Coldash „	25	76	23	23	—	20	1	—	—
East Ham „	81	173	13	139	—	10	10	16,123	—
Eltham „	70	235	50	148	8	11	19	—	66
Enfield „	73	287	15	232	—	21	17	—	24
Epsom and Ewell „	45	124	11	98	14	7	2	—	44
Harrow „	—	173	29	118	—	11	10	—	18
Hounslow „	45	159	26	120	—	8	5	2,269	309
Livingstone Dartford „	108	236	43	171	—	12	10	—	65
Kingston, Victoria Hospital	87	257	31	187	12	20	12	—	42
Mildmay Cottage Hospital	—	—	—	—	—	—	—	—	—
Reigate and Redhill „	124	370	35	281	16	26	22	—	60
Sidcup „	45	151	26	112	3	7	3	219	23
Tilbury (Passmore Edwards) Cottage Hospital	56	135	42	83	—	8	18	1,946	—
Willesden „	*124*	*289*	*155*	*134*	—	*17*	*16*	253	70
[illegible]	62	208	22	152	—	17	14	60	80
[illegible]	66	237	8	200	—	7	12	118	—
[illegible]	66	—	—	—	—	—	—	—	—
[illegible]	56	167	30	117	4	9	7	—	167
[illegible]	113	178	10	146	—	16	3	—	—
[illegible]	113	140	51	83	—	16	3	—	—
[illegible]	39	222	69	122	7	22	2	—	—
[illegible]	43	62	28	—	—	19	15	—	—
[illegible]	23	24	—	—	—	12	3	—	—
[illegible]	356	178	27	15	—	39	97	—	—
[illegible]	126	95	24	—	—	17	54	—	—
[illegible]	180	129	27	1	1	29	97	—	—
[illegible]	69	64	38	2	2	20	—	—	—
[illegible]	56	1,225	1,134	15	—	152	5	—	—
Winifred House	64	37	18		—	18	—	—	—
Eversfield	—	303	267		—	51	10	1,886	—
Infants' Hospital	113	465	40	213	—	29	80	—	—
All Saints', Highgate	25	141	125	—	—	16	—	—	—
	£6,670	30,603	7,411	11,723	83	1,564	630	45,271	1,161
Estimated to supply omissions	—	3,432	3,378	8,418	—	252	102	10,214	685
Total	£6,670	34,035	10,789	20,141	83	1,816	732	55,485	1,846

Commission and of the Ambulance Committee, and in the Children Act which came into force at the beginning of last April, is towards increasing medical responsibility for the health of what we know as the "masses." In that responsibility the hospitals will have to bear their share, probably rather more than their fair share, and the Metropolitan Hospital Sunday Fund presses its demand that they should be enabled to bear the burden. None will grudge the gift who think of the suffering children of London. In health, their lot is not to be envied. In illness, or when accident befalls them, the hospital opens its doors to them as a haven in which they can find relief, and more than that can forget for a while the crowded street, their playground, and the reeking room, their only home. If all to whom the opportunity occurs to contribute to the Hospital Sunday Fund could only visit one or two hospital wards filled with children for half an hour before the plate or bag came before them, the resources of the Fund would be hugely raised.

TABLE IV.—DISPENSARIES.

Name of dispensary.	Hospital Sunday Fund award.	Out-patients' visits.
Battersea Provident	£214	63,000
Billingsgate	118	14,390
Blackfriars Provident	23	7,503
Bloomsbury ,, ...	17	6,235
Brixton, &c.	56	23,697
Brompton Provident	19	4,304
Buxton Street	28	—
Camberwell Provident	90	92,703
Camden Town ,, ...	17	7,540
Chelsea, Brompton, and Belgrave	51	6,562
Chelsea Provident	11	3,336
Child's Hill ,, ...	17	6,195
City	55	21,831
Clapham General and Provident	28	10,852
Deptford Medical Mission	28	11,517
Eastern	43	31,365
East Dulwich Provident	54	23 397
Farringdon General	45	8,083
Finsbury	63	34,197
Forest Hill Provident	43	23,009
Greenwich ,, ...	39	23,742
Hackney ,, ...	20	1,600
Hampstead ,, ...	70	—
Holloway and North Islington	23	2,568
Islington	69	56,001
[illegible]	29	—
... ...		[illegible]
... ...	16	[illegible]
... ...	17	5,310
Kentish Town Medical Mission...	21	3 061
Kilburn, Maida Vale, and St. John's Wood	45	7,932
Kilburn Provident Medical Institution... ...	58	20,570
London	13	—
London Medical Mission	153	17,933
Margaret street, for Consumption	35	7,894
Metropolitan	74	30,660
Mildmay Medical Mission	23	—
Notting Hill Provident	11	7,572
Paddington ,, ...	39	8,383
Public	34	8,107
Queen Adelaide's	30	17,950
Royal General	30	13,058
Royal Pimlico Provident	54	24,945
Royal South London	52	10,224
... ...	30	3,994
... ...	57	18,564
... ...	61	9,339
... ...	36	8,145
... ...	25	
orth Brixton	44	7,908
... ...	63	34,501
... ...	56	10,917
... ...	18	9,523
t	17	6,191
... ...	22	9,962
Western	76	24,015
Western General	114	20,374
[illegible]	15	1,375
... ...	52	22,711
... ...	33	25,457
Woolwich ,, ...	38	—
	£2,736	885,750
Estimated to supply omissions	—	91,054
Total	£2,765	976,804

Another reason for a Liberal Contribution.

Yet another reason may be added for the need for special effort in 1909 in order to keep the annual collection of the Metropolitan Hospital Sunday Fund at its usual high level. We are at peace with the world. It is now several years since the country had to bear the stress of the South African war and its accompanying expenditure of the national resources. Nevertheless, the recent years of peace which we have enjoyed have not been markedly years of prosperity or of "good trade." Liabilities affecting the nation must be met by those having charge of its finances, and methods of taxation necessary in the eyes of a Chancellor of the Exchequer do not always secure the cheerful acquiescence of those upon whom the burden is cast. It is often threatened by those who consider that they have been hardly treated by the imposition of fresh or increased taxes that their economies occasioned thereby must take in the first place the shape of diminished contributions to charity. We hope that as a matter of fact so ignoble a threat is but rarely carried out, and that such diminution of almsgiving does not take place save only when necessity absolutely compels it. We hope also that in all such cases gifts to the hospitals of London are the last to be withdrawn. Sometimes, however, charitable gifts must cease to flow from their accustomed sources for various reasons, and then the charity must put up with the loss unless others will come forward and make it good. We call upon all, therefore, in the current year to see that neither bad trade nor the course of taxation shall affect to its loss the Metropolitan Hospital Sunday Fund. Whatever the condition of England's commerce may be, the hospitals of London must carry on their business unflinchingly. Their commerce is one that brings them no profit in a financial sense, but they appeal to all to prevent them from carrying it on at a loss. They endeavour to frame their estimates for the financial year with

TABLE V.—NURSING ASSOCIATIONS.

Name of association.	Hospital Sunday Fund award.	Visits.
Belvedere and Abbey Wood	£ 9	3,469
Brixton	27	—
Central St. Pancras	20	10,958
Chelsea and Pimlico	27	17,220
Hackney	34	23,142
Hammersmith	55	39 531
Hampstead	21	—
Isleworth	11	5 308
Kensington	61	29,116
Kilburn	9	—
Kingston	34	17 026
Metropolitan (Bloomsbury)	68	28,543
St. Olave's (Bermondsey)	48	26,212
Paddington and Marylebone	49	23 914
Plaistow	63	19,790
Plaistow (Maternity)	150	—
Rotherhithe	14	4,429
Shoreditch	89	41,631
Silvertown	13	—
South London (Battersea)	61	44,933
Tottenham	7	—
Southwark...	41	21,220
South Wimbledon...	21	—
Westminster	27	17 657
Woolwich	30	17,010
East London	173	82,774
North London	75	23,257
London District	492	244 677
Peckham	9	6,162
	£1,750	747,890
Estimated to supply omissions	—	165,026
Total	£1,750	912,916

all the care and skill that they can command. Experience has taught them to be prudent; it has also taught them not to be over sanguine. They practise every economy that is consistent with the efficient discharge of their duty. If they suffer loss of income, if at the end of their financial year the balance is against them, it is because their revenue has fallen short of their expectations, and perhaps because some of those to whom they have looked for support have failed them. Such failure will be due, no doubt, to necessity and not to any lack of good will; but it has as its result a deficit instead of the modest degree of solvency for which they hoped. They impose no tax except that which the generosity of their friends will enforce. They levy no duty upon which they can insist. They can only appeal to all who "have" to assist in the name of charity in allaying the sufferings of those who "have not." From those who have health they crave aid on behalf of those whose health has failed, and who have been rendered helpless thereby; who have been struck down by physical injury or disease against which they have made no provision while in health. They ask it of those who have wealth, and of those who have that [illegible] the slender [illegible] om sickness [illegible] unless help [illegible] the part of the labourer and artisan, which will help to keep his family from want while he is in the hospital. Many a man, and very properly, makes an inroad upon his savings with this object in view, but let us remember that for many hundreds of thousands of our countrymen it is not possible to make such provision for contingencies as will safeguard them when serious illness or accident befalls. They belong to the class whose occupation renders them liable to accidental injury in a degree which their neighbours in other walks of life may scarcely realise. They live in homes and under conditions which in the public interest as well as in theirs we hope to see ameliorated; but at present, at all events, they so live that disease is likely to find in them but little resistance to its attack; and the remedies which science places in the hands of the community for serious physical conditions are of a costly nature, including suitable lodging and food, highly trained nursing, surgical and medical aid, costly drugs, and costly apparatus. No economies that even the better situated of the working classes are able to make, can enable them to meet such a demand upon their resources, and if in the hospitals they accept charity no blame can attach to them in their misfortunes. But if times become better let them remember to contribute their mite. Others who come to the hospitals are lower in the economic scale: men and women whose labour is fortuitous, and who in casual work, often of the roughest kind, are even more liable to injury and disease than the artisan or labourer in regular employment. It is for such as these, too, that the generosity of the public is craved on Hospital Sunday. The alms of the charitable, which given promiscuously may mean the provision of a few meals or the tiding over of a temporary crisis of a life of chronic mendicancy, have a different signification when they contribute to the building up of health of those who thus will at least have the chance of

TABLE SHOWING THE RESULTS OF COLLECTIONS SINCE THE COMMENCEMENT OF THE FUND.

Year.	Totals.	Donations.	Year.	Totals.	Donations.
1873	£27,700	£1844	1891	£45,330	£9019
1874	29,936	1505	1892	41,512	4429
1875	26,396	1424	1893	39,290	3652
1876	27,042	1339	1894	43,679	7717
1877	26,082	947	1895	60,361	21,930
1878	24,904	1199	1896	46,035	6533
1879	26,501	1120	1897	41,003	3607
1880	30,423	1567	1898	40,397	3364
1881	31,656	1638	1899	53,504	15,310
1882	34,146	2106	1900	51,993	16,137
1883	33,935	1980	1901	54,731	18,343
1884	39,329	6410	1902	62,609	16,307
1885	34,320	2555	1903	64,976	16,766
1886	40,399	4817	1904	63,054	15,143
1887	40,607	4130	1905	78,379	29,425
1888	40,379	3060	1906	63,075	18,441
1889	41,744	3482	1907	78,651	35,865
1890	42,814	3991	1908	80,181	39,941

1884. Including £4500 from the International Health Exhibition.

1885, 1886, 1887. Including three donations of £1000 each from Dr. James Wakley, Editor of THE LANCET.

1891. Including £5000 from the late Duke of Cleveland, &c.

1894. Including a legacy of £5000 (less duty) from the executors of the late Mr. W. J. Whitaker.

1895. Including £10,000 from Messrs. Barnato and friends; £3400 from the Stock Exchange; £1000 from Lord Iveagh; and £1000 from Mr. J. B. Robinson.

From 1891 to 1896 Sir Saville Crossley, Bart., P.C., M.P., gave an annual donation of £1000, and since has divided his contribution between this Fund and King Edward's Fund.

1897. Jubilee year. H.R.H. the Prince of Wales started a Special Fund for Hospitals.

1899. Including £10,000 from Mr. George Herring, and £1050 from Mr. J. Lane Denham.

1900. Including a further £10,000 from Mr. George Herring, £1090 from Mr. Thos. King, and "F. H" £1000.

1901. Including a further £10,000 from Mr. George Herring, and £4000 from Sir F. Cook, Bart, M.P.

1902. Including a further £11,575 from Mr. George Herring, and £1000 from Mr. Charles Morrison.

1903. Their Majesties the King and Queen, with most of the other Members of the Royal Family, attended at St Paul's Cathedral. [illegible] ing, and [illegible]

1906. Including a further £11,000 from Mr. George Herring and £3000 on account of the legacy bequeathed by Mr. Herbert Lloyd

1907. Including £30,000 from the late Mr. George Herring's estate, and a second instalment of £3000 on account of the bequest of the late Mr. Herbert Lloyd.

1908. Including £35,000 from the late Mr. George Herring's estate, and an instalment of £2000 on account of the bequest of the late M Herbert Lloyd.

SUMMARY OF TABLES.

–	Hospital Sunday Fund award.	In-patients.	Relieved.	Cured.	Convalescent homes.	Remaining under treatment.	Died.	Out-patients' visits	Accidents and emergencies
pitals	£35,253	78,924	23,428	37,228	9,719	5,230	6,720	3,122,534	592,188
ospitals	23,106	40,808	14,842	19,136	2,925	3,572	2,502	1,559,729	53,534
Cottage Hospitals and Convalescent Homes	6,670	34,035	10,759	20,141	83	1,816	732	66,465	1,845
Dispensaries	2,766	—	—	—	—	—	—	973,904	—
Nursing Associations	1,750	—	—	—	—	—	—	912,916	—
Total	£69,545	153,767	49,029	76,505	12,727	10,633	9,954	6,657,[illegible]	647,523

helping themselves. Such gifts as these are surely worth a little self-denial, the loss of a transitory pleasure, or the abnegation of a luxury which once enjoyed will leave nothing behind worth possessing. The present season may be one at which the prospect of financial burdens presses heavily upon some who in the past have been able to treat them more lightly; but we urge upon all that it would be unworthy of them to allow the hospitals and the poor whom they relieve to suffer thereby. The reward of satisfaction in a good deed done without ostentation will be to those who give freely.

All can and should give.

The Metropolitan Hospital Sunday Fund is not only an organization for collecting the alms of the wealthy and well-to-do, who in places of worship in prosperous neighbourhoods have helped it before, and will, we feel confident, aid it again most generously: it is also essentially the opportunity for all to give in proportion to their means. There is a time honoured and possibly trite expression, which has been used sometimes in jest and sometimes in earnest until its origin and its inventor have alike been forgotton, if any one person can ever have originated it. A hackneyed phrase, however, may sometimes be justly and seriously applied, and if we now say with regard to the Metropolitan Hospital Sunday Fund "All contributions thankfully received," we do so with every hope that those who read will realise that it is addressed in all earnestness to themselves and to their neighbours without exception. The Fund welcomes the gifts of all, and distributes them justly and evenly so that they take their part in sustaining those great healing institutions which have set an example to the whole of the charitable world. There must be very few who attend religious worship on Hospital Sunday so poor that they cannot give their mite, perhaps in gratitude for that which the hospitals have done for themselves or for their friends or relatives. There can be few children who cannot bring contributions which will show that they too have learnt something of the duty of self-denial and of thought for others. We have said above that all should remember to give themselves, and to remind others, so that none may be able to plead ignorance or forgetfulness. We refer not only to those Londoners who on Hospital Sunday may not attend at any place of worship because they seek recreation or for other causes. London at this season is filled to overflowing with strangers to whom it extends a ready welcome; some are from foreign countries, and others from various parts of the British islands or from distant portions of the Empire. Some are here for business, others for pleasure; but whether they are here to make money or to spend it on their own enjoyment, they should be reminded of the hospitals of the metropolis whose doors stand open to all who need their aid, and who bestow that aid without taking account of birthplace or of "settlement," of nationality or of creed. They should not be allowed to forget that if the qualification for admission to the hospitals of London is that of physical suffering which the hospital can allay, combined with poverty, there is one cause and one only which may bring about the denial of help to those whose claim for assistance is beyond question. That cause is in three simple words: "want of money." Insolvency almost every hospital risks each year, relying upon the repetition of those kindly gifts which have helped it in the past, but beyond a certain point a hospital cannot go, and the work has to be sadly curtailed and kept within limits which can only be made wider by the generosity of the public.

To that public appeal is made once more in 1909 on behalf of the Metropolitan Hospital Sunday Fund.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

Receipts and payments for the year ending 31st October, 1908.

Dr. 1908.	£	s.	d.	£	s.	d.
To Balance at Bank of England, 1st Nov., 1907	4,079	5	3			
,, Balance, Petty Cash	8	19	2			
				4,088	4	5
,, Collections made at Sundry Places of Worship	40,213	15	7			
,, Collections at Schools	26	0	5			
,, Donations	1,003	19	8			
,, Dividend on £224 15s. 2d. Consols	5	7	0			
,, Interest on Balance of Legacy from the late Herbert Lloyd (less Tax)	136	6	7			
,, Dividend on £45,346 1s. 3d. Consols, per Executors of W. A. Guesdon, deceased	1,133	13	0			
,, George Herring's Estate— On account of Interest	35,000	0	0			
,, William Vokins' Bequest— Dividend on £22,590 16s. 3d. Consols	536	10	8			
,, Interest on Deposit	90	11	5			
,, Legacies— Herbert Lloyd, third instalment of legacy of £10,000	2,000	0	0			
,, Income Tax returned	35	11	5			
				80,181	15	9
				£84,270	0	2

1908.	£	s.	d.	Cr. £	s.	d.
By Awards to 150 Hospitals	63,584	5	7			
,, Awards to 13 Institutions	1,317	7	6			
,, Awards to 60 Dispensaries	2,764	0	11			
,, Awards to 29 Nursing Associations... ...	1,750	0	0			
,, Surgical Appliances	4,071	5	1			
				73,486	19	1
,, Rent	275	0	0			
,, Insurance	1	3	8			
,, [illegible]	4	11	5			
,, [illegible] Cleaning ...	39	8	6			
,, [illegible]	183	18	3			
,, Postages	213	10	4			
,, Telephone	16	7	7			
,, Advertisements	316	10	10			
,, Salaries and Gratuities	1,342	19	6			
,, Pensions	362	10	0			
,, Special Appeal...	725	11	11			
,, Sundries	15	1	4			
,, Law Charges	700	0	0			
				4,196	13	4
,, Balance at Bank of England, 31st Oct., 1908	1,557	13	0			
,, ,, on Deposit...	5,000	0	0			
,, ,, Petty Cash	28	14	9			
				6,586	7	9
				£84,270	0	2

Audited and found correct, this 26th day of November, 1908.

(Signed) W. H. PANNELL & Co., *Chartered Accountants*, 13, Basinghall-street, E.C.

*** *In the preparation of the voluminous statistics of hospital work which have been here digested and exhibited in collected form (and which have been specially supplied to us in response to our applications, and are quite independent of any returns made to the Metropolitan Hospital Sunday Fund Committee), we have been greatly indebted to a large number of secretaries and other officers of the various medical charities of the metropolis. To them we desire, as on many previous occasions, to tender our sincere thanks.*—ED. L.

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Association did not see its way to adopt some means by which a knowledge of the very important facts contained in the appeals could have been brought to the notice of the public. It has been urged as an objection that any attempt to sow broadcast such a knowledge of the early symptoms of cancer of the womb would cause an unnecessary and painful feeling of anxiety to a large number of women. We do not think, however, that such an objection should be allowed much weight. It would be far better that even a large number of women should seek medical assistance unnecessarily in the fear that they may have cancer, than that, as happens at the present time, a still larger number should delude themselves with the hope that the symptoms they are suffering from are of no importance. It would be well if the practice adopted by many foreign and American obstetricians of making a local examination of all their patients before ceasing attendance upon them after a confinement was more commonly carried out in this country. We know that the making of such examinations, the immediate utility of which is not apparent, is a matter of much difficulty, and the adoption of any practice which would in the least tend to lessen the feeling of modesty would be most deplorable; but at the same time the price which many unfortunate women in consequence are compelled to pay is a very heavy one. Their condition is not realised until too late. The recognition of the very earliest signs of cancer of the neck of the uterus is, in particular, of the utmost importance because of the anatomical relations of this portion of the uterus. In the most favourable circumstances, and by the most extensive operation which it is possible to practise, the amount of healthy tissue beyond the limits of any growth in this region which can be removed is necessarily limited. The very close anatomical relations which exist between the cervix uteri and the bladder and ureters render a sufficiently adequate removal of even an early growth and the tissues surrounding it in this position a matter of much difficulty. Indeed, it might be said that one of the causes of the high death-rate from cancer of the womb in women is the anatomical relations of the ureters in the intrapelvic portion of their course.

One of the most important errors prejudicing the lay view of cancer is that the disease cannot be present without the presence of a great deal of pain. When we recall the extreme anguish which many sufferers have to endure in the later stages of most of the varieties of malignant growths the mistake is not an unnatural one. In this connexion midwives and nurses can do much to instruct their patients as to the truth. They may teach them the important facts, rightly laid great stress on in the portion of the appeal addressed to nurses, that "cancer may occur at any age and in a woman who looks quite well and who may have no pain, no wasting, no foul discharge, and no profuse bleeding." The snipping out of a portion of the tissues of the cervix for microscopical examination is so simple and painless a procedure that we may hope the issue of the appeals will lead to this being carried out in all doubtful cases of enlargement or disease of the cervix uteri much more frequently than is at present the case. There is no difficulty in these days in obtaining an expert pathological opinion about such a piece of tissue, and in all cases of doubt it is certainly wisest to err upon the safe side and to have the diseased tissues widely and thoroughly removed. Hitherto the ultimate results of operations undertaken for the removal of cancerous growths of the uterus have been so uniformly disappointing that many people have lost all faith in the possibility of cure by operation. This is mainly because operative procedure usually comes too late. Patients and the public should realise the fact that the outlook in cancer in the early stages, if properly removed, is by no means so hopeless as it was, and the total number of patients cured is increasing day by day. We trust sincerely that the appeals issued by the British Medical Association may bear good fruit; and we hope that the committee which has drawn up the appeal will not consider its labours at an end, but that it will continue the work with the object of spreading a knowledge amongst women themselves of the important facts which they have promulgated. Both the medical man and the nurse are powerless unless the patient will confide in them, and in many instances the dread of cancer leads the unfortunate patient to hide her symptoms until it is too late for the medical attendant, when she does seek his help, to be of any service.

Lord Lister and the Antiseptic Method.

IN another page of this issue we have reviewed the collected works of Lord LISTER, which have been published as a memorial of his eightieth birthday. Modern surgery dates from the introduction into practice of the principles laid down by LISTER more than 40 years ago. Before that time surgery was chiefly characterised by its uncertainty. An operation might be performed with the greatest care, the design of the operation and its performance may have been of the highest type, but no one, not even the greatest surgeon of the age, could say with any approach to certainty that recovery was likely to follow. Primary hæmorrhage had ceased to be the bugbear of surgeons which it had been for centuries, for the ligature and torsion had succeeded almost completely in putting an end to the fear of hæmorrhage at the time of the operation; but only too often, some ten days or so after the operation, secondary hæmorrhage, as it was called, burst forth, and this was by far more troublesome and dangerous than primary hæmorrhage, for it might occur at any moment—in the middle of the night, as well as during the day, and the pouring out of the blood in a full stream might pass unnoticed by everyone, even by the patient himself, until so much blood had been lost that recovery was impossible. Even when the bleeding was seen it was no easy matter to restrain it, for it might come from the depths of a wound which had almost healed. Let us suppose, however, that the patient had successfully passed by the danger of secondary hæmorrhage, was the wound likely to heal without any other unfavourable manifestation? By no means: in any circumstances various septic complications were not unlikely to follow. Erysipelas was not a rare visitant to a healing wound and in nearly every case free suppuration occurred, while in hospital practice the most striking manifestations of sepsis were to be generally seen.

Pyæmia and septicæmia frequently occurred in hospitals and caused many deaths, but even more noticeable was the disease to which the conditions of its occurrence gave the name of "hospital gangrene." This was rarely met with out of hospitals, but in hospitals it was fairly frequently seen. Grey points of slough appeared on a wound and spread rapidly until the whole surface was affected, and the surrounding skin, of a dull red, was soon involved in the sloughing process.

Little was known of the causes of these severe septic complications, but theories were devised to explain the facts. The mere presence of pus was held to require no explanation; suppuration was the natural way, or one of the natural ways, in which a wound healed, and so long as the pus was discharged freely, and it was of the usual tint and odour, it was looked upon as beneficial rather than otherwise, and the name "laudable pus" which was applied to it conveyed this idea. To a certain extent there was a small foundation for this favourable view of free suppuration, for it betokened the complete formation of granulations which offer a very thorough opposition to the absorption of septic organisms or their products. Distinctly septic manifestations were at this time in part ascribed to the influence of the atmosphere or to winds from certain quarters, but it became recognised that overcrowding of wards frequently preceded the appearance of the more severe complications, and that when the percentage of open wounds in a ward was high the risk of the occurrence of pyæmia or hospital gangrene was especially great. Sometimes one or both of these diseases invaded a particular ward and remained in it in spite of all precautions, until it was found necessary to close the ward. Indeed, so prevalent were these and similar septic affections in hospitals that a special word, "hospitalism," was invented to designate, if not to explain, this unfortunate tendency to septic processes observable in hospital. One eminent surgeon was so convinced that the cause of these complications was connected with the wards that he suggested that a hospital should no longer be built of such permanent materials as brick or stone, but that it should be made of wood, so that when it had lasted some few years it could be pulled down and another wooden hospital raised in its stead, which, for a time at least, would be free from these severe septic manifestations.

The methods of dressing wounds which prevailed were calculated to spread infection. Sponges were used for bathing wounds and ulcers, and though they were washed in water after being employed for one patient they were carried straight to the patient in the next bed. Instruments also used for dressing wounds were only washed in water before being employed on the next patient, so that probes were frequent mediums to convey infection into the deeper parts of wounds. In operations, too, the conditions which prevailed must appear strange to the modern student of medicine. Hardly any cleansing of the patient's skin or the hands of the surgeon and his assistants occurred. The instruments were washed after use in one case before being employed for another, but the washing was not thorough. The ligatures employed were of silk which had been well waxed so as to make them hold more firmly, and a favourite and convenient receptacle for the ligatures during an operation was the button-hole of the coat of the house surgeon, whence they were taken as they were required. When drainage was free suppuration became fully established in three or four days, and the wound granulated from the bottom. Occasionally it happened that union by first intention occurred, but this was not encouraged, for the ligatures had been left long and had been brought out at one end of the wound, and till these separated healing tended rather to the accumulation of pus; while if it happened that no ligatures had been employed primary union of the skin was very liable to be accompanied by suppuration and the accumulation of pus in the deeper parts.

The results obtained after injury or operation naturally varied greatly with different surgeons and in different sanitary conditions, and on the whole it might be said that the results of operations in private practice were better than those obtained in most hospitals. After major amputations the mortality was very high, for it varied from 30 to 50 per cent. In some statistics of Nussbaum's cases it is stated that of 17 cases of amputation 11 died from pyæmia. This was exceptionally severe, but it is certain that fatal results from septic processes were very common. It is not, however, merely from the mortality that a just comparison may be made between the pre-Listerian days and the present Even in the cases that recovered the difference was enormous. After an operation the old-time patient suffered much pain for the first three or four days, the edges of the wound became swollen and tender, and his sleep was disturbed; this discomfort became slightly mitigated on the full establishment of suppuration. Then came the risk of secondary infections, pyæmia, septicæmia, and hospital gangrene which we have already mentioned, while erysipelas and tetanus were also frequent complications, and if the patient escaped or survived an attack of one or more of these it often required many weeks for recovery. In cases of compound fracture necrosis frequently followed, and the process of separation of the necrosed portions of bone might occupy months. It is true that in some special cases good results were obtained, for instance, Keith's cases of ovariotomy gave a mortality wonderfully low when we consider the date at which the operations were done, but Keith used cleanliness in everything connected with the operation, and to this must be ascribed his excellent results. Putting aside instances such as these which were utterly exceptional, we must recognise that before Lister made the attempt to prevent sepsis in cases of compound fracture a large proportion of cases of injury and of operation proved fatal from septic disease, and a very large proportion suffered greatly from septic processes. From all this Lister has delivered us.

The most extraordinary ideas prevail, not only among the public but among the recent recruits to medical ranks, as to what Lister exactly did. By some his achievement is supposed to have been the discovery of carbolic acid or its application to surgery, whereas carbolic acid, though unused then in the British Isles for surgical purposes, had been used abroad. Others imagine that his method merely consists in using carbolic acid in wounds. Those who think thus of Listerism have not the faintest idea of the real work which LISTER did The antiseptic method depends on a principle, viz, that for the perfect healing of a wound it should be free from germs, and this principle depended on a theory that the cause of decomposition in a wound is the presence of germs The words septic and antiseptic were no creations of LISTER's, as many seem to imagine, they date back at least 200 years before his time, the meaning of septic was fermentative and decomposing, and an antiseptic was any substance that could prevent fermentation or decomposition Salt, wine, vinegar, and cold were all recognised generations ago as possessing antiseptic powers, and LISTER's theory, based, as he freely acknowledged, on PASTEUR's researches, was that it was not the entrance of air into a wound, but the entrance of germs with the air, that led to decomposition and other septic processes, and he pointed to the difference in the results of a simple and a compound fracture as illustrative of the nature of the origin of septic processes His first cases treated antiseptically were compound fractures, and the problem was, how can this wound be made and kept free from germs? As *some hours had usually elapsed between the infliction of* the injury and its being seen by him, LISTER recognised that germs must have already contaminated the wound and he set himself to destroy all the organisms which had already gained entrance To this end he wiped out the recesses of the wound with liquid carbolic acid and covered the opening with a piece of lint dipped in the carbolic acid, and recovery *ensued without any suppuration* The event had served to prove the truth of the theory The details of the method mattered nothing in themselves so long as they led to the same result—the destruction and exclusion of germs The details were varied from time to time, carbolic putty was invented, then carbolic lac plaster was devised, sheet tin dressings were applied, but in each and every case the principle was the same Gauze gradually made its appearance and the spray was instituted, but all this was done with regard to the same principle—the exclusion of germs from the wound. Further changes ensued; medicated cotton wool and then simply sterile cotton-wool was employed as an outer dressing The spray was discontinued, but without any change of principle Corrosive sublimate dressings were *introduced, and these were replaced by dressings of the* double salt sal alembroth, and later still the double cyanide of mercury and zinc was recommended as being superior to the others Through all these changes one unceasing purpose runs—to prevent the access of pathogenic germs to the interior of a wound whether caused by injury or made by the surgeon in the course of an operation

When in process of time aseptic surgery arose it was nothing more than the elaboration of the same principle The employment of heat for sterilisation of dressings and instruments was no new thing, for in many of his earlier researches LISTER had used heat to sterilise apparatus he was employing Aseptic surgery stands in no antithesis to antiseptic surgery It is merely a simplification of the original form, and simplification has been proceeding from the very inception of the antiseptic method. LISTER himself early recognised that the application of liquid carbolic acid to the interior of a wound caused much unnecessary exudation which required special arrangements for its removal, and it was not very long before he replaced the liquid carbolic acid by a 5 per cent solution It would be a mistake to imagine that even in the aseptic method we have reached finality, though we cannot at present see the direction that any improvement can take It is, however, certain that from LISTER's first case in 1865 to the present time the evolutionary process has been continuous The benefits conferred by LISTER's invention are, moreover, not confined to the improvement of the operations practised at the time of the introduction of antiseptic surgery Great though that change has been, that is to say from almost unlimited sepsis after operation to almost certain asepsis with rapid healing, *yet in another direction the change has been greater still* The field of operation has been wonderfully widened. Regions of the body that were left untouched, and were held to be untouchable by the surgeon, are now dealt with as a matter of daily routine, and the beneficial results are commensurate with the enlargement of the scope of surgical activity—in other words, the gain to humanity is incalculable.

The reception accorded to LISTER's work by his own profession was hardly what might have been expected The mistake of imagining that he had merely suggested a new lotion for dressing wounds was commonly made He had put forward a principle, and it was *imagined that he had merely introduced a drug* Carbolic acid was expected *to do all that the principle* promised, and as in its use the principle was frequently disregarded, disappointment naturally followed Even some of those who appreciated to an extent that the complete destruction of bacteria in the wound and their exclusion from the wound were both to be obtained seem to have thought that the more carbolic acid that was applied the better the result would be LISTER laid down most carefully the principle that the swabbing or washing out of the wound was only to be done once and for all, and that thenceforth the less the carbolic acid came in contact with the wound the better, but his teaching was regularly violated with the best of motives Abroad, as at home, the acceptance of the antiseptic method was slow, but every *surgeon who tried it thoroughly continued to employ it, and* the effect was amazing In VOLKMANN's wards in 1871 the deaths from pyæmia and septicæmia were so numerous that he made up his mind to close the hospital altogether for a time, but before doing this he resolved to try the antiseptic method for a few weeks, and the results were very satisfactory This was typical of what gradually took place everywhere, but as a rule the younger surgeons were more ready to adopt the methods of aseptic surgery, and for some years after the laying down of the right principles there were some surgeons who while they practised aseptic surgery as they understood it, did not look upon a freely suppurating wound as a failure so long as the grosser forms of sepsis were absent These times, however, have now passed away.

It should be of interest for us to see, without aiming to detract in the least from LISTER's originality in the invention of antiseptic surgery, if there was anything in the circumstances of his life which predisposed him to make the discovery. We find at once that he had a wider scientific training than most other surgeons of his time. His father, J. J. LISTER, had devoted a very large amount of attention to scientific matters, and especially to improvements in the achromatic microscope, so that LISTER had grown up in a scientific environment, and at an early age had the use of as good a microscope as was then procurable. The bent thus received led him to devote much attention while at University College, London, to the study of physiology under SHARPEY and of chemistry under GRAHAM, two men who stood at the very summit of their respective sciences. The knowledge so obtained stood him in good stead later and helped him not only in his physiological and bacteriological researches but also in arranging the practical details of his methods. It was a great advantage to him also that he had much experience of surgery both in University College Hospital, London, and in the Royal Infirmary, Edinburgh, and so observed and practised very different methods of treatment. This large opportunity enabled him to appreciate that the untoward results of operations were not the fault of any individual surgeon or of any particular surgical method but of the whole system; and when he found that as surgeon at Glasgow he was unable by all the means then in his power to stem the current of sepsis he was led to apply the bacteriological knowledge he had gained to the attempt to solve the problem of sepsis. Natural bias, early training, good masters, a wide field of observation, enormous industry and genius—these are the things which went to the discovery of the antiseptic methods.

Annotations.

"Ne quid nimis."

THE METROPOLITAN HOSPITAL SUNDAY FUND.

WE publish this week our usual Special Supplement in support of the Metropolitan Hospital Sunday Fund. The interests of this Fund have since its inception appealed particularly to THE LANCET, and we hope that the appeal from the pulpits to be made on Sunday, June 13th, will meet with a hearty response.

ILLNESS IN THE ROYAL FAMILY OF ITALY.

IN supplement to the details given in our correspondence as to the health of the Queen-Mother an Italian contributor writes:—"Her Majesty still suffers from pain, neuralgic and muscular, at the cervical vertebræ; pain severe enough to make movement of the neck all but impossible. In consultation, it is understood that Dr. Baccelli inferred a tetanic indication, in abatement of which hypodermic injections of phenic acid have been practised, in addition to those of morphine. The continued suffering and the loss of sleep have reduced the Queen-Mother's strength considerably, and since May 21st a physician has sat up with her Majesty at night, relieving a colleague in attendance during the day. In professional circles it is surmised that Her Majesty has subjected her system to excessive strain by the long and rapid journeys she has been accustomed to take in her automobile. That mode of progression, indeed, is so much in favour with Her Majesty that she had contemplated a tour through Japan in the vehicle—a project which the present illness has forced her to abandon. At the Villa Margherita the inquiries as to the health of its august inmate are incessant, and the visitors' book receives many signatures daily from members of the *Corps Diplomatique* and the patrician world. As soon as the conditions permit, the Queen-Mother will be removed from Rome to a more opportune summer *villeggiatura*. As I write, I am informed that H.R.H. the Duke of Aosta is lying ill at the Palace of the Quirinal from bronchial catarrh, and that his consort, the Duchess Elena, has arrived to assist at his bedside. Fortunately, the temperature, which at first exceeded 39° C., is now nearly normal, and according to to-day's bulletin the conditions are those of 'full defervescence.'"

THE MEDICAL DEFENCE UNION.

THE annual general meeting of the Medical Defence Union was held at Bristol on Thursday, May 27th, when the annual report of the council and the statement of accounts were received. The annual report demonstrates once again in an unmistakeable manner the advantages which are obtainable from being a member of one of the defence societies. Not only does it convey protection from an attack by unscrupulous persons upon the member's professional character, but he can at any time seek the advice of the executive upon all matters which involve professional principle, and if he be wise he will not hesitate to seek such advice as soon as he finds himself in a difficulty or sees one approaching in the distance. A useful warning is once more contained in the report which members will do well to heed—namely, that many an action has been imperilled by unwise procedure adopted by members before seeking skilled advice; such instances are still constantly met with, but are becoming less numerous since this caution has been drawn attention to. Many members have fallen into this error by not desiring to trouble the Union in what seems to be a small matter, but it is very difficult to estimate the manifold possibilities of an apparently simple case, therefore advice should be sought before any amateur efforts are made to attempt to warn off legal complications. An important new step has been taken by the council of the Union and one which will enhance the value of membership. In the last report the matter of indemnity against adverse verdicts, where members by such are directed to pay the costs and damages, was considered. The subject has since been very carefully discussed both at executive and council meetings, and it has been decided to offer an insurance against such events. The details of the arrangements are stated in the report. Briefly stated they are as follows. Where an adverse verdict be given against a member who is thus insured, the taxed costs of plaintiffs and "damages ordered" up to the limit of £2000 or £2500, as the case may be, will be paid by the Yorkshire Insurance Company. The annual premium to be paid by insurers for the limit of £2000 in any one action will be 7*s.* 6*d.*, and for the limit of £2500 will be 9*s.* Also "where a settlement is arrived at with the consent of the Yorkshire Company 'out of court' or 'in court,' after proceedings have commenced, the costs, if any, of the plaintiff, and the sum agreed to in settlement, be defrayed by the Yorkshire Company." These arrangements seem to us to be business-like and the members of the Union will be well advised to take advantage of them. The report of the solicitor (Mr. W. E. Hempson) is, as usual, of a most interesting character. Numerous cases are cited which were referred to him to deal with, and during the year 128 such cases were actually carried through, disposed of, and completed. Of these, 40 were libel and slander actions taken or defended on behalf of members; 25 were actions in which damages were claimed for malpraxis; seven were cases relative to the prosecution of unqualified persons and the suppression of unauthorised practice; while the remaining 56 had relation to matters generally affecting the interest of the members or the profession, in which the support or intervention of the Union was sought. During the year two cases were compromised at the express request of the members involved, and in one case the Union was not successful in obtaining a verdict on behalf of the member concerned. With these exceptions, each and every matter referred to and undertaken by the Union was brought to a successful issue. The financial condition of the Union is highly satisfactory, and we offer our congratulations to the members of the council of the Union, to the solicitor, and to the general secretary (Dr. A. G. Bateman) on a valuable and satisfactory year's work.

WEATHER FORECASTING.

THE Director of the Meteorological Office has just issued an intimation that he is prepared to furnish special weather forecasts for the four months June to September, 1909. These forecasts are principally intended to further agricultural operations but as medical practitioners may frequently desire to have trustworthy information of this kind, either for personal use or for the benefit of a convalescent patient who may contemplate a journey away from home, we append some of the details from the circular. Particulars of the scheme, with forms for application, may be obtained from the Director, Meteorological Office, 63, Victoria-street, London, S.W. The official number of the circular is 052. Forecasts for the probable weather of the ensuing 24 hours, beginning at midnight on the day of issue, will be despatched, each week-day from the office by telegraph at 2.30 P.M. The forecast will be 12 words in length and the address will be additional. The cost of each forecast will therefore be 6*d.*, in addition to ½*d.* for every word of address. The office is also prepared to send notification by telegram whenever the conditions appear favourable for a continued spell of fine weather. The notification will take the form of a forecast covering a period of not less than two days following the date of issue. Those who wish this notification to be sent must deposit a fee of 2*s.* 6*d.*, which includes the cost of the telegram. Recipients who are willing to coöperate in the matter will be supplied with forms on which they can record the actual weather experienced for the purpose of comparing the forecast with the actual weather.

VACCINE THERAPY.

IN another column we publish a paper read before the Therapeutical and Pharmacological Section of the Royal Society of Medicine by Dr. W. Hale White and Dr J. W. Eyre on the results of a year's use of vaccines in general medicine. It is considered by many observers, and we believe rightly so, that vaccine therapy will be employed in the future far more than has hitherto been the case. Satisfactory results have been reported in numerous conditions of microbic origin. The vaccines which probably have produced the most favourable consequences have been those obtained from the gonococcus and the bacillus coli communis. Dr. Hale White and Dr. Eyre record some interesting cases in which these vaccines were employed. One case was particularly striking. A man arrived from India in a very debilitated condition and was expectorating large quantities of blood and pus. Operation was not considered advisable on account of his extreme weakness and a vaccine was prepared. The result was excellent, complete recovery ensuing. With further experience it will probably be possible to extend the use of vaccines to those conditions in which, as yet, good response on the part of the patient has not followed. In croupous pneumonia, for example, numerous attempts have been made to employ vaccine therapy, but up to the present the results have been by no means all that could be desired. One of the drawbacks to this form of treatment is the time that is required to prepare a vaccine, but as the danger in pneumonia does not arise until a late period of the disease, this difficulty is not so formidable as in some other conditions. Dr. Hale White and Dr. Eyre excluded cases treated with tuberculin, giving as an explanation of this omission the length of time that must elapse before any conclusions can be arrived at. Results which have been obtained by various investigators, however, suggest a line of treatment in pulmonary and other forms of tuberculosis which is of great promise. With regard to the pulmonary form, tuberculin may be employed as an addition to the sanatorium treatment, especially in those patients who are unable to undertake but little exercise on account of constantly recurring auto-inoculations.

THE ROYAL COMMISSION ON VIVISECTION.

A LETTER signed by various members of the Research Defence Society has been sent to the Home Secretary. The letter states that—

> [illegible]

The letter has been signed by the Earl of Cromer, President of the Research Defence Society; the Hon. Sydney Holland, chairman of committee; the Duke of Abercorn, Lord Avebury, Lady Bliss, Lord Robert Cecil, Lord Cheylesmore, Sir Savile Crossley, the Hon. Walter Guinness, Sir Edwin Ray Lankester, Sir Frank Lascelles, Mr. Frederick Macmillan, the Earl of Malmesbury, Sir Patrick Manson, the Duke of Montrose, the Dean of St. Patrick's, Lord Rothschild, Mrs. Scharlieb, Professor E. H. Starling, Sir Reginald Talbot, Sir Frederick Treves, the Duke of Wellington, and the Bishop of Winchester. We are glad to see that the Research Defence Society has taken this step.

THE ILLUMINATING ENGINEERING SOCIETY.

A SOCIETY has recently been formed under the above designation. An executive committee has been appointed and has drafted its constitution and rules. A similar society has for some time been in existence in the United States and has met with great success. The object in view is to bring into intimate relationship all those who are in any way interested in the subject of artificial illumination. For too long a period this question has been entirely in the hands of technical experts, whose purview is limited and inadequately controlled. The aim of the engineer, whatever his medium—electricity, gas, oil, and so on—has been to obtain the maximum efficiency—that is, maximum illumination at minimum cost. The distribution of the sources of light has been controlled by the architect, who is perhaps unduly swayed by convenience and artistic considerations. Both he and the engineer have paid relatively little attention to the physiological problems involved. Always important, these have become still more so with the advance of the art of illumination. The introduction of new inventions, such as the metallic filament lamp, has led to the use of light extremely rich in ultra-violet rays. It is well known that these rays are deleterious to vision, and it has become imperative that some supervision shall be exercised over the artificial illuminants in general use. The object of the Illuminating Engineering Society is to bring together all the branches of the illuminating engineering profession, as well as architects, ophthalmologists, and physiologists, so that the problems may be fully discussed without any commercial bias and with the aim of the highest good for the greatest number only in mind. If the society maintains this lofty ideal it will deserve well of the medical profession and should receive its warm support. Further information can be obtained from Mr. L. Gaster, editor of the *Illuminating Engineer*, 32, Victoria-street, London, S.W.

A PROPOSED MEMORIAL TO THE LATE DR. J. J. RIDGE.

THE cause of total abstinence never had a stronger or more efficient champion than the late Dr. John James Ridge, of whose life we published an account in THE LANCET of June 13th, 1908 (p. 1729). No one who read that record of his character and achievements can wonder that a body of his friends have decided to perpetuate his memory in Enfield, the town of which he was medical officer of health for 27 years. We need not repeat at length the claims on which the appeal now in circulation on this behalf rests, but we will remind our readers that Dr. Ridge was a man of whom any profession might well have been proud. Before he came of age he had graduated in arts, science, and in medicine, besides gaining a university scholarship and gold medal in surgery at the University of London. Subsequently he took his M.D. degree twice over, in medicine and State medicine, and in both these branches of practice he did valuable work for the community. But the labour of his lifetime was above all devoted to the cause of total abstinence, which he was especially anxious to see rooted firmly in his own profession. He was the founder and the secretary of the British Medical Temperance Association from 1874 until he died; he formed half of the original staff of the London Temperance Hospital, of which he was a visiting physician for 25 years; he was first President of the International Union of Medical Abstainers, and for many years editor of the *Medical Temperance Review*. The first appeal for funds to provide a suitable memorial to Dr. Ridge was made at a recent public meeting at Enfield, when it was proposed, if the response should be sufficient, to erect a granite memorial in Enfield and to found a Ridge Convalescent Fund for the benefit of patients of the Enfield Cottage Hospital, of which Dr. Ridge was the founder. We believe we have only to make these proposals widely known amongst the medical profession to obtain some response from his admirers, and we are asked to state that donations may be made to the honorary treasurer, Dr. Howard Distin, Holtwhite House, Enfield.

THE RADIOGRAPHY OF CERTAIN DYSTROPHIC DISEASES OF BONE.

EVERY medical visitor to Paris knows the Musée Dupuytren with its wonderful osteological collection. The opportunity has been afforded M. Legros and M. Léri of making a systematised x-ray examination of the numerous specimens of bone disease there preserved, and their first communication on the subject is published in the latest number of the *Nouvelle Iconographie de la Salpêtrière*. It is devoted to a consideration of four morbid conditions of the bones between which there exist certain clinical resemblances; on the one hand, Paget's disease (osteitis deformans) and delayed hereditary syphilis with osseous manifestations, two diseases which in the opinion of some observers are similar, if not identical; on the other, osteomalacia and rickets, conditions producing bony deformities sometimes more or less analogous to those of the other two mentioned above, as well as presenting certain features in common. The radiographic picture of Paget's disease is characteristic and curious. In addition to condensation or rarefaction of the outer shell of compact tissue the photographs show an appearance compared by the writers to a tangled skein of the finest wool; delicate osseous threads pass to and fro in all directions, either limited to the centre of the bone or ramifying from one end to the other, sometimes reticular, sometimes anastomosing, sometimes arranged in whorls. Where the epiphyses are invaded they lose their normal contours, and in the pictures the ends of the bone look "woolly." This appearance is pathognomonic of Paget's disease. In the osseous manifestations of delayed hereditary syphilis, on the other hand, there is found a solid or almost solid mass of new-formed bone in concentric layers, while the architecture of the rest of the bone is regular and normal. The radiographic appearances of osteomalacia are also very curious The outer layer is intact throughout most of the diaphysis, but the epiphyses are thinned and scarcely recognisable; the whole extent of the central part of the bone is transparent, and is crossed at wide intervals by dense opaque partitions, running transversely or obliquely, so that large clear irregular alveoli are formed, as much as three or five centimetres in diameter. This appearance is pathognomonic of osteomalacia. In rickets, notwithstanding the curvatures, the normal disposition of the bony layers is more or less preserved; on the concavities the compact bone is thickened, and in the centre a degree of rarefying osteitis is found, but there are no large alveoli, and no rarefaction of the epiphyses.

DISEASED ALIENS: THE UNITED STATES AND CANADA.

REFERENCE was made in THE LANCET recently to the passage of alien immigrants through Liverpool on their way to the United States and to Canada, and to the frauds practised upon them. The law of the countries mentioned is being strictly enforced in order to prevent the importation of undesirable citizens, among whom are those suffering from disease, and the suffering are easily robbed under false promises either that they shall be cured or that they shall be smuggled into the country for which they are destined. Two migrants recently made their appearance at the Guildhall police court charged under the provisions of the Poor-law, and their stories, extracted from them with difficulty by interpreters, although containing no imputation of fraud against anyone, illustrate the way in which England is used as a clearing house. The first man was apparently an Armenian from Kharput, in dominions ruled by the Sultan of Turkey. He had found his way thence about three months ago to Liverpool, where he paid £6 for a passage to New York. There the medical authorities refused to let him land and he was shipped on to Canada He succeeded in getting ashore in Canada, but went no further than a hospital, where he was detained for a few days until he could be re-consigned to Europe. The ticket given him for this purpose seems to have been for a second-class passage to London *viâ* Rotterdam, and he made use of it as long as it would carry him, for he was found practically penniless, hungry, and quite incapable of making himself understood at Holborn Viaduct Station in company with the person charged with him. The second man seems to have met the first towards the end of his journey, for he travelled direct from New York to Rotterdam without visiting Canada. He had been shipped to America *viâ* Naples and Liverpool from Tripoli in Syria, but he too had been prevented from landing by the New York medical authorities. There was some difficulty in extracting the above story for the benefit of Alderman Howse at the Guildhall, but the workhouse authorities had succeeded at length in finding interpreters, and the magistrate had no difficulty in certifying the men to be aliens. Their story will have been communicated to the Home Office, which will deal with them, and meanwhile they remain in prison. After all, they do not deserve very much pity, as they must be deemed to have made long experimental journeys for which they had no justification, and if they commenced them at their own expense they will finish them at considerable loss to others, and more particularly to this country. It is difficult to argue that persons of their class, whom New York and Quebec are able to reject with promptitude, ought to be accepted without question in the ports of London or Liverpool, or that England is to be congratulated upon the policy at present pursued by her in such cases. It can hardly be suggested that it is right either to encourage diseased wastrels to remain here, or to help them to spend their money on fruitless travel to countries better able to take care of themselves than we are.

"MATRIARCHY."

THE contention of many excellent people that social laws are "man-made" and therefore press unduly upon women would at least seem to require some qualification from the point of view of the evolution of the human race. Marriage, for example, can scarcely be said to have existed among very primitive communities, and its institution may be due to women. Bachofen, contrary to many serious thinkers, believes that in the earliest times promiscuity was the rule, but "after a while the women, shocked and scandalised by such a state of things, revolted against it, and established a system of marriage with female supremacy, the husband being subject to the wife, property and descent being considered to go in the female line, and women enjoying the principal share of political power." At least as many people believe the converse—viz., that marriage was the man's way of keeping possession of his chattel, but if we accept the theory of Bachofen and his school, we reach the period of matriarchy, of which many relics still exist among civilised and uncivilised races. Speaking of matriarchy, Mr. Gomme, in "Folk-lore as a Historical Science," says that among many primitive peoples kinship with the father is purposely neglected as a social factor. Among the Khasia people in the hills of Assam the husband is only an occasional visitor in his wife's house, where "he seems merely entertained to continue the family to which his wife belongs." Among the Syntengs and the people of Maoshai the husband only visits his wife in his mother-in-law's house. In Jowai he is only a visitor after dark, the fact being that, according to Major Gurdon, among these people "the man is nobody ...... if he be a husband he is looked upon merely as *u shong kha*, a begetter." Among birds and fishes occur numerous instances of what for want of a better term we may call matriarchy. Thus the late Mr. Bartlett of the Zoological Gardens informed Charles Darwin that it was certainly the male ostrich alone who sat on the eggs and took care of the young, while the female during the breeding season became extremely pugnacious. Darwin further cites a description of the female of one of the emus, who is larger than the male and altogether fiercer. "The male has a slenderer frame and is more docile, with no voice beyond a suppressed hiss when angry, or a croak." He not only sits on the eggs, but defends the young at every turn from the angry female, which is bent on destroying them. A similar state of things is said to exist among certain Indian quails, the females of which are larger than the males, and among certain nest-building fishes, the males of which do all the work, and afterwards take exclusive charge of the young. So far as mankind is concerned matriarchy is a phase occurring early in the evolution of the races, and humanity apparently has not found a matriarchal system expedient to its development as the system has not survived in any race of the slightest consequence in civilised history; but this must not be made too much of as an argument, for a scheme of things may be of no great value to a primitive folk and yet be very serviceable to more highly developed communities.

A NEGLECTED SIGN IN OBSCURE ABDOMINAL DISEASE: "THE RECTAL SHELF."

AMONG the more obscure abdominal diseases are malignant disease of the various organs and certain forms of localised peritonitis. The importance of early diagnosis in the former is obvious. In the *Albany Medical Annals* for May Dr. George Blumer has called attention to a valuable sign, which he terms "the rectal shelf." Though not new it has been strangely neglected by writers on abdominal disease. In 1895 H. Strauss, the German gastrologist, stated that in some operations for cancer of the stomach he found metastases "in the liver, retroperitoneal tissue, and in Douglas's pouch, a situation which on account of its explorability merits more frequent examination." Four years later he said that in some cases he found the early and only metastasis in Douglas's pouch, and that in two cases this was the point which decided the diagnosis between gastric ulcer and cancer. Orth in the sixth edition of his "Diagnostik" states that in tuberculosis and carcinoma of the peritoneum, especially of the disseminated form, while there may be no growths in the neighbourhood of the pelvis, there occurs as a rule between the rectum and bladder a metastasis sufficient to cause pressure due to implantation of infective material in the most dependent part of the peritoneal cavity. As a result there is often a circumscribed fibrous inflammation. From coalescence of nodules a board-like inflammation of serous and subserous tissues may result and involve the rectum, and even penetrate its wall and give rise to the diagnosis of rectal cancer. Chiari states that such metastases are moderately frequent in gastric cancer. This sign did not escape some of the older writers. Thus, in 1835, Sym of Edinburgh described a case of tuberculous peritonitis (verified by necropsy) in which the medical attendant found a tumour in the anterior wall of the rectum during life that prevented the administration of enemata.[1] Similar observations in connexion with operations for cancer of the stomach have been made by Griffon and Nattan-Larrier,[2] and by Payr.[3] Kelling states that in every case of suspected carcinoma of the stomach "I examine the patient per rectum for glands in Douglas's pouch and for rectal carcinoma." Dr. Blumer describes the condition found on rectal examination as follows. The lower part of the bowel is usually normal, and not until the prostate is passed is any abnormality usually detected. In some cases just above the prostate, in others at the limit of palpability, two to four centimetres above, the finger, passed along the anterior rectal wall, impinges on a shelf of almost cartilaginous hardness which projects into the rectal cavity. In some cases further palpation shows that the whole rectum is involved in an annular zone of infiltration more marked anteriorly and tapering off towards the posterior wall. This condition is termed by Schnitzler "signet-ring stricture." In such cases the infiltration is no longer confined to Douglas's pouch but involves the submucosa of the rectum, in which it may spread widely. The infiltrated area is more or less fixed and is shelf-like or peg-like. The mucous membrane over it is not ulcerated. This absence of ulceration and the peculiar shape distinguish the rectal shelf from primary cancer of the rectum. Further, blood and pus are not passed. It is possible to mistake other conditions for the rectal shelf. The lower fold of Houston is sometimes thickened, but this should not cause confusion, as there is not the board-like feeling of the rectal shelf. In one case Dr. Blumer was deceived by a small subperitoneal myoma which projected into Douglas's pouch and impinged on the rectal wall. The clinical value of the rectal shelf varies. In some cases it merely confirms the diagnosis; in others it is of great diagnostic and prognostic value. It may point to a latent growth in the abdomen. In the great majority of cases the primary growth is in the stomach; in nearly all the cases the patients are males. In females cancer cells gaining access to the peritoneum tend to become implanted in the ovary, producing metastasis there. Dr. Blumer has found the rectal shelf in five out of nine cases of cancer of the stomach. It is of bad prognostic import, for glandular metastases are almost certainly present and radical operation is contra-indicated. When the primary growth is latent the metastasis has been taken for it and has even been excised as cancer of the rectum. Symptoms of rectal obstruction may be marked.

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[1] Edinburgh Medical and Surgical Journal, vol. xliv., p. 123.

[2] Bulletins et Mémoires de la Société Anatomique de Paris, 1903, vol. lxxviii., p. 431.

[3] Archiv für Klinische Chirurgie, 1906.

ENGLISH URBAN MORTALITY IN 1908.

THE death-rate in England and Wales during last year did not exceed 14·7 per 1000 of the estimated population; it was considerably lower than the rate recorded in previous years since the commencement of civil registration in 1837, and was 1·4 below the mean rate in the period 1899–1907, during which steady decline in the death-rate was almost constant. The recent issue of the Registrar-General's Annual Summary for 1908, a valuable contribution to vital statistics, contains much comparable information relating to the health conditions of our principal urban populations during last year. The population of the 76 English towns, which had at the date of the last Census upwards of 50,000 inhabitants, was estimated at sixteen and a quarter millions in the middle of last year, among which population the death-rate in 1908, after correction for its age and sex constitution, was equal to 15·8 per 1000, against 16·7, 16·9, and 16·3 in the three preceding years 1905–6–7. The corrected death-rate last year in the individual towns ranged from 9·5, 10·7, and 10·9 per 1000 in Hornsey, Leyton, and King's Norton, to 20·3 in Manchester and in Rochdale, 20·5 in Liverpool, 21·5 in Middlesbrough, and 22·3 in Oldham. In the county of London, with an estimated population little short of five millions, the corrected death-rate did not exceed 14·5 per 1000, the crude rate being only 13·8. It is worthy of note that, with the exception of Hastings, all the seven towns which had a corrected death-rate last year below 12 per 1000 were suburban town districts either of London or Birmingham; and further, that of the 15 towns in which the corrected death-rate exceeded 19 per 1000, eight are situated in Lancashire. The crude or uncorrected rate of mortality within the whole registration county of Lancashire is returned in the annual summary as 16·9 per 1000, against 14·7 in England and Wales, but this rate considerably understates the real excess of mortality within this county. The rate of infant mortality in Lancashire last year was equal to 144 per 1000 births, the mean proportion in England and Wales being only 121; the rate in Lancashire was indeed only exceeded in the counties of Durham and Glamorgan, in which it was equal to 148 and 151 per 1000. There are few surer tests of the relative sanitary condition of a population than the rate of infant mortality, which shows a marked excess in most of the larger Lancashire towns. The 76 large English towns having in 1901 a population exceeding 50,000 include 15 in Lancashire; in the aggregate of these 15 towns the rate of infant mortality last year averaged 148 per 1000, while the mean rate in the 61 other large English towns did not exceed 124, and in the County of London it was but 113 per 1000. The lowest rates of infant mortality among the 15 Lancashire towns were 111 in Barrow-in-Furness, 122 in St. Helens, and 129 in Bury, while in the 12 other towns the rates ranged upwards to 151 in Manchester, 152 in Salford, 153 in Preston, 156 in Wigan, 159 in Oldham, 168 in Rochdale, and 200 in Burnley. Among the towns situated in other parts of England and Wales the rate of infant mortality did not exceed 95 in Coventry, 96 in Northampton, and 99 in Portsmouth and in Reading; whereas it was equal to 166 in Hanley, 168 in Stockport, 178 in Merthyr Tydfil, and 184 in Rhondda. These wide variations in the rate of infant mortality in the large English towns, to which the Registrar-General's returns constantly draw attention, afford the strongest proof that infant mortality is within the control of sanitary administration, and the relatively high death-rates, especially among infants, prevailing in the Lancashire towns and in some other large urban districts undoubtedly reflect unfavourable sanitary conditions, which await increased efficiency in local health administration.

PERSISTENCE OF THE CRANIO-PHARYNGEAL CANAL IN ACROMEGALY.

THE cranio-pharyngeal canal, which passes down from the floor of the sella turcica through the basisphenoid into the nasal pharynx, normally becomes obliterated in the fœtus at the beginning of the third month. In 4829 skulls it was noted by Le Double to be persisting in only ten, about 0·2 per cent. Schlaginhaufen observed it, on the other hand, in 40 per cent. of apes' skulls examined. The interesting fact now comes to light that Dr. Ettore Levi of Florence has found it persisting in the skulls of two acromegalics which he has had the opportunity of observing, and he describes the condition in the *Revue Neurologique* for May 15th. In one, situated mesially and at the junction of the anterior and middle third of the floor of the sella turcica was a round depression 6 millimetres in diameter and 6½ millimetres deep; at the bottom of this was a small round opening which communicated by a canal 9 millimetres long through the basisphenoid with the nasal pharynx, entering the latter at a point 5 millimetres from the posterior margin of the left wing of the vomer, and allowing the passage of a seeker 1 millimetre in diameter. In the second case a canal in almost exactly the same site and with the same course was found. In this connexion it is instructive that in the skull of the Irish giant Magrath, described by Professor Cunningham, an elliptical perforation was noted in the floor of the sella turcica communicating directly with the nasal pharynx, the lower end of it being partly covered by the enlarged wing of the vomer. A re-examination of acromegalic crania in view of these facts is called for, as it is quite conceivable that an abnormality of this nature has escaped observation. The light which it may throw on the hypophyseal theory of acromegaly may be considerable. Recent researches have conclusively shown the existence of pituitary tissue in the vault of the nasal pharynx, deep in the soft tissues lining the vault, an accessory pharyngeal hypophysis identical in structure with the glandular part of the cranial hypophysis and of normal and constant occurrence. Its pathology is unknown, and what relation it may bear to those cases of acromegaly without obvious lesions of the pituitary gland, and those other cases of lesion of the pituitary without acromegalic symptoms, is equally unknown Data such as these suggest an interesting line of research for subsequent investigators

THE GOVERNMENTAL GRANTS FOR SCIENTIFIC RESEARCH

WE are informed that, in connexion with the annual grant voted by Parliament in aid of scientific investigations concerning the causes and processes of disease, Mr Burns, the President of the Local Government Board, has authorised the following special researches 1 A continuation of the investigation into protracted and recurrent infection in enteric fever, by Dr Theodore Thomson, medical inspector of the Board, in conjunction with Dr J C G Ledingham of the Lister Institute 2 A continuation of the investigation into protracted and recurrent infection in diphtheria, by Dr Theodore Thomson and Dr C J Thomas 3 A continuation of the investigation into flies as carriers of infection, by Dr S Monckton Copeman, medical inspector of the Board, and by Professor Nuttall of Cambridge 4 A continuation of Dr F W Andrewes's investigation on the presence of sewage bacteria in sewer air, with a view to ascertaining their number and the distance they can be carried by air currents, also a continuation of Dr Andrewes's investigation into the part played by changes in bone marrow in the defensive mechanism of the body against infection 5 A continuation of Dr W G Savage's investigations on the bacterial measurement of milk pollution and on the presence of the Gaertner group of bacilli in prepared meat and allied foods 6 An investigation into the chemical and physical changes undergone by milk as the result of infection by bacteria and into the relation of the pancreas to epidemic diarrhœa, by Dr H A Scholberg and Mr Wallis of University College, Cardiff 7 An investigation of the records of charitable lying in hospitals as to the nutrition of the mother and other factors influencing the vitality of infants and their progress in the first 14 days of life, by Mr G F Darwall Smith, physician to the British Lying in Hospital 8 An investigation into the occurrence and importance, in relation to treatment of mixed infections in pulmonary tuberculosis, by Dr A C Inman, pathologist to the Brompton Hospital for Consumption 9 An investigation on the relative importance of certain types of body cells in defence against the tubercle bacillus and the effect of tuberculin and other remedial agents on their activities, by Dr J Miller, pathologist to the General Hospital, Birmingham

FRACTURE OF THE SCAPHOID BONE

FRACTURE of the scaphoid bone of the wrist has received little or no attention in the text books and is regarded as extremely rare, but since the introduction of skiagraphy it is one of the injuries which have been revealed with unexpected frequency No doubt before the introduction of this means of diagnosis fracture of the scaphoid bone as well as many other lesions were covered by the diagnosis of "sprain of the wrist" Probably also this fracture has been mistaken for Colles's fracture or overlooked when that fracture was also present In the *Bulletin de la Société de l'Internat des Hôpitaux de Paris* for December, 1908, M Judet has reported the following case A youth, aged 20 years, was thrown violently from his bicycle against a wall The force of the injury was received on the palms of his hands, which he put out to save himself After the accident the lower part of the right radial region was swollen, and later the whole of the forearm A practitioner diagnosed fracture of the radius, which he treated by massage and progressive mobilisation Three months after the accident the patient came under the care of M Judet because of loss of use of the wrist and pains in the wrist All the movements of the wrist were painful and limited From time to time, especially at night, the patient felt neuralgic pains in the area of the median nerve The thenar and hypothenar eminences were slightly atrophied There was an enlargement of the wrist at its external part Palpation showed that this was due to bony enlargement which caused elevation of the region of "the anatomical snuff box" This sign enabled the diagnosis of fracture of the scaphoid bone to be made, which was confirmed by radiography The scaphoid was broken into two equal parts, of which the upper was displaced forwards and also had undergone a movement of rotation The semilunar bone had almost completely lost contact with the head of the os magnum In consequence of these changes a guarded prognosis was given The patient was told that he would have to remain under observation for a long time, and that if the stiffness of the wrist increased or if signs of compression of the median nerve appeared resection of the carpus might be necessary Massage, mobilisation, and baths were prescribed, and the treatment was energetically carried out After three months there was some improvement, but recovery was far from complete It would be of interest to record any parallel cases known to our readers

THE PHYSIOLOGICAL STANDARDISATION OF DIGITALIS

AN important contribution to our knowledge of the standardisation of preparations of digitalis has been made by Dr Charles W Edmunds and Dr Worth Hale[1] The introductory portion of the *Bulletin* contains a succinct account of the literature of the subject, from the chemical and pharmacological points of view, showing the variability of preparations of digitalis, and the impossibility of standardising them by a chemical assay of one or more of the active principles of the drug The literature relating to the various biological methods of standardisation occupies 16 pages and forms a most valuable summary of the subject It is shown that the various methods that have been employed fall into three primary groups, which may be classified as follows First a toxic method, in which frogs, guinea pigs, or some of the higher animals are used Secondly, a method based on the use of the frog's heart and the subsequent observation of the time that elapses before it stops in systole The third method aims at a comparison of physiological activity by means of the relative effects upon the blood pressure in some of the higher animals Dr Edmunds and Dr Hale examined a number of official and proprietary preparations of digitalis, in order partly to ascertain to what extent they varied in strength but more particularly to find if possible a method of standardisation which was capable of yielding uniform results and possessed advantages over other methods A superficial examination of the tables of results would seem merely to cast doubt on the value of the biological methods of assay now in vogue but a closer examination of the tables showed that the anomalies were exceptional the majority of the results being uniform It is pointed out that methods which employ as a standard the determination of the minimum lethal dose in the higher animals are not applicable to the physiological assay of preparations of digitalis because one solution might be very weak in its action upon the heart and yet contain decomposition products the typical action of which is upon the medulla. Preference is given for simple methods based upon the action of the drug upon the circulation rather than upon the nervous system, the two best being the "12 hour toxic method and the "one hour method," in both of which frogs are employed. Full details of these methods are given in the Bulletin, which will doubtless afford assistance to the compilers of the next British Pharmacopœia.

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[1] Bulletin No 48 Hyg Lab U S Public Health and Marine Hospital Service Washington pp 61 (1909)

THE TUBERCULOSIS EXHIBITION: MR. JOHN BURNS ON "THE WHITE SCOURGE."

THE Tuberculosis Exhibition, already announced in our columns, was opened at the Art Gallery, Whitechapel, on Wednesday last, organised by the National Association for the Prevention of Consumption and Other Forms of Tuberculosis. The exhibition will remain open until June 19th, during which time lectures especially directed to arouse popular attention will be delivered by well-known authorities, while a conference will take place next week on the best methods for the prevention, early detection, and the subsequent treatment of consumption. The exhibition was opened by the President of the Local Government Board in a long and eloquent address in which he suggested that for the popular title of the "White Scourge," the far more poetical description, "Captain of the Men of Death" should be substituted, and truly the terrible figures quoted by Mr. Burns justify this use of Bunyan's phrase. But while these figures showed the drain on our national vitality caused by tuberculosis the future is one of great promise, as also appeared from Mr. Burns's statistics; for in less than 40 years the death-rate from phthisis has declined by more than one-half, while the better education of the people is leading them in every direction to live their lives and shape their domestic policy towards further improvement. In particular the public is now awake to the danger that lies in unwholesome milk, and here again Mr. Burns is to the fore by introducing a Milk Bill. The text of this measure, which we shall shortly publish in our columns, makes it probable, alas, that many of the clauses will be vigorously contested, but the debates, we may be certain, will take place over details and not over principles, for the country is now roused to the perils that lie in contamination of the staple food-supply of our young and our invalids. This wholesome feeling can only be advanced by such exhibitions as that which has just been opened at Whitechapel, and we are glad to learn from Mr. George Harwood, M.P., the chairman of the exhibition, that it is intended to send the exhibition to different parts of the metropolis and the country as a form of missionary enterprise. This proceeding has been attended in Ireland, as all our readers know, with highly satisfactory results.

THE TREATMENT OF CANCER BY FERMENTS.

DURING the last three or four years much work has been done in the treatment of inoperable malignant disease in man by means of the hypodermic injection of trypsin with and without amylopsin, but, though in a few cases some improvement appeared to follow, the ultimate result was unsatisfactory and the treatment has, we believe, been completely abandoned. Dr. J. A. Shaw-Mackenzie, who has worked on this subject, publishes in this number of THE LANCET a paper describing a series of experiments on the treatment of malignant disease in mice by means of hypodermic injections of extracts of the duodenal and intestinal mucosa, and of liver extract and also of mixed ferments. Control cases were kept. The result of the experiments has been that no definite beneficial action could be ascribed to any of the injections, though at one time it looked as if the injections had some influence. The failure of these attempts does not necessarily condemn all ferments in the treatment of malignant disease, but it inculcates the lesson that it is only by using a fair number of cases that we can arrive at a definite opinion; if only one or two cases be employed, an erroneous decision may easily be formed.

IT is intended to hold a short service on Friday, June 11th (Feast of St. Barnabas), at 1.15 P.M., at the Church of St. Magnus-the-Martyr, London Bridge, being the special effort of the united parishes of St. Magnus-the-Martyr, St. Margaret, New Fish-street, and St. Michael, Crooked-lane, E.C., on behalf of the hospitals. The preacher will be the Right Rev. the Lord Bishop of Rochester. The Right Hon. the Lord Mayor, accompanied by the Sheriffs of London, will attend in state. The collection will be for the Metropolitan Hospital Fund.

A SUPPLEMENT to the thirty-seventh annual report of the Local Government Board for 1907-08, containing the report of the medical officer for the same period, has just been issued.

MOTORING NOTES.

BY C. T. W. HIRSCH, M.R.C.S. ENG., L R.C.P. LOND.

Concerning the Budget.

AT present it seems unlikely that the rebate of half the duty on the quantity of petrol consumed in propulsion which is granted to commercial cars will be extended to automobiles used by medical men. It is, therefore, most essential to look that squarely in the face which the whole profession will regard as an unjust burden, and to take such means as we can to minimise the evil. Perhaps it may in an indirect way do us, or rather our motor cars, good. With automatic carburettors we may often be using more petrol than needful; this means too rich a mixture; a deposition of soot in the cylinders and piston-heads, with probably overheating, pre-ignition, and loss of power; all troubles that can only be treated by taking down the cylinders and curetting their insides. Now that petrol is 1*s*. 2*d*. the gallon we may perhaps be more careful, and although the pre-ignition knocks of our engine did not make us so, the Government's attack on our pockets may. If so, well, it is but another proof that "It is an ill wind turns none to good."

On top speed many engines run much better with an excess of air, and more air means less consumption of petrol and less liability to sooting. A simple way to bring about this condition is to cut two or three circular holes in the induction pipe as far away from the carburettor as possible, and, if practicable, equally distant from each inlet valve. Of course on some cars this latter cannot be done. The holes, about one-sixteenth to a quarter of an inch in diameter, should be guarded by fine gauze, and a sliding ring or sleeve should be fitted, so that on starting and on low speeds they can be closed. An ordinary tube slipped over the induction pipe and kept over the apertures by a spring answers admirably, and by means of a Bowden wire brought up to the dash-board, the tube, which should be just a close fit, can be drawn forward, and the extra air inlet so brought into use; on releasing the wire, the spring will pull the tube over the inlet and so close the openings.

We cannot produce petrol for ourselves, still, as I mentioned in THE LANCET of Jan. 9th, benzol is made in this country—in fact, in London, by the South Metropolitan Gas Company; and benzol with the carburettor air inlet widely open answers just as well as petrol. The one thing to remember when using benzol is to open the air inlet of the carburettor as much as possible and, what is even better, to make an extra one. If that is done there need be no fear of sooting and deposit in the cylinders.

A matter that will have to be settled is, Shall the tax be collected on the raw spirit as it arrives in this country or on the refined article as it is sent out in cans to the public? It looks rather as if the dealers expect to be charged on the raw material, for they have put the price up 4*d*., the extra penny being, I presume, for duty paid on spirit that is lost in distilling. As few medical men use cars of more than 16 h.-p. for the new tax, as pointed out in THE LANCET of May 8th, for annual motor-car licences, even allowing for the rebate, will not affect practitioners much, although those living in level towns and only using cars of 6 h.-p. will save a guinea a year by the alteration. It is to be presumed that the lower power [illegible] one on which [illegible] mula such as [illegible] will have to be adopted. Their method estimates the horse-power from the bore, irrespective of the stroke of the engine.

A Method to Keep Motor Vehicles Free from Dust.

A simple and effective device has lately been introduced by the Kennedy Motor Company, Limited, of Glasgow, which will certainly be a boon to those who drive in open cars. It consists of two fan-shaped spouts attached to the exhaust box of the engine, which so direct the exhaust gases that they meet the dust raised by the wheels and blow it away from the car and its occupants.

Removing Deposit from Cylinders.

[illegible] ders, [illegible] is to [illegible] the dome and the head of the piston. Prevention is better than cure, and provided that the mixture is not too rich, and the quality of lubricating oil used is good, and not excessive in quantity, this operation should not be needed more than once in every 18 months or two years. This scraping might not be then even needed if the combustion head or dome of the cylinder was machined perfectly smooth; in many cases these parts of the casting are left rather rough, and thus present a good surface on which deposit may settle. One of the features that calls for admiration in the sliding valve Daimler engine was the beautifully smooth inside of the head of these cylinders. But even with roughly cast insides care in the selection of the oil used will greatly assist in postponing the evil day when scraping will be necessary.

Choice of Lubricating Oils.

Because an oil is cheap it does not follow that it is not suitable; and the converse also holds true, even expensive oils are not always a success. Both hydrocarbon and compound oils have their advocates, but I believe the majority of experts recommend the latter class, believing that by their use decomposition and deposits of carbon are minimised. Anyway, oils with a flash-point not far below 500° F. are well suited, and a good test in addition to the flash is to put a little in a porcelain dish and weigh it, then place the dish with the lubricant in it in an ordinary kitchen oven for four hours and re-weigh; if the loss is under 2 per cent. and if the oil has become merely "tacky," that is, like treacle, it should do well for automobiles. Among many kinds that have a good name are the productions of Price's Patent Candle Company, Limited, Messrs. Butterworth of Liverpool, and the Anglo-American Oil Company.

THE SEVENTH INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY.

CONSIDERABLE activity has characterised the proceedings of the sections of this Congress after a brilliant opening ceremony which took place at the Albert Hall on May 27th.

The Prince of WALES, in declaring the Congress open, expressed his full appreciation of the important part which chemistry plays in almost every branch of modern industry and declared that experience has warned us that the rule-of-thumb is dead and the rule of science must take its place.

Sir HENRY ROSCOE, as Honorary President of the Congress, bid a hearty welcome on behalf of all British chemists to their *confrères* assembled from all parts of the world, a welcome which Sir WILLIAM RAMSAY cordially echoed in an address in which he briefly recounted the history of the Congress since its inception at Brussels in 1894. Dealing with the practical value of chemical science, Sir William Ramsay said that our continental fri[illegible] long seen and acted on the conviction that the prosperity of a country can best be advanced [illegible] friendship and constant association between the university and the factory, between pure and applied science. "Congresses like the present," he continued, "can teach us much and if we learn this lesson from them we shall have gained a valuable national asset."

Professor ARMAND GAUTIER followed with an expression of sympathy with the objects of the Congress on behalf of his colleagues in France. "The country," he said, "of the Lavoisiers, the Pasteurs, and the Berthelots was happy to come to offer a just tribute of homage to the country of the Cavendishs, the Davys, and the Faradays."

[illegible] Dr. HARVEY W. W[illegible] Dr. OTTO N. W[illegible] PATERNO, on behalf of Italy; and [illegible] the remaining countr[illegible] great importance to th[illegible]

As so often marks the organisation of international congresses, there proved to be a real plethora of papers and addresses, and many sections found it impossible to get through their programme i[illegible] impossible is it to give an [illegible] the various subjects disc[illegible] had important relations to medical science and administration. The question of food supply was, for example, discussed in many directions. Professor Bernthsen's remarkable summing up of the question of the world's supply of nitrogen attracted considerable attention. The production of nitric acid from the air on a tiny scale by Cavendish in 1781 had since received a mighty development, for at the present day hundreds of tons of nitrate available for the fertilisation of the soil were being manufactured with the agency of water and electric power, and it was probable that in a few years the annual output of air saltpetre would reach 100,000 tons. Such a consummation would appear to eliminate the view entirely that we are any longer at the mercy of natural processes for the production of fertilising materials.

Professor WITT of the famous Charlottenburg laboratories, in his able lecture on "Evolution in Applied Chemistry," referred to the same subject and instanced the case of *Norway, which had begun to develop a chemical industry of* vast dimensions. Its factories would have no chimneys and no fires. They would be actuated by the white coal, the force of roaring torrents. If we considered how our present chemical industries had been evolved from empirical processes such as our ancestors practised and as they still exist in the countries of the East, we could easily observe a gradual transformation similar in respect to the one that living nature [illegible] the present types of plant and [illegible] important duty to watch ov[illegible] the past and to collect it before it disappeared for ever.

In the bromatology section many interesting papers on food questions were discussed, and amongst them references were made to the vexed question of standards. Mr. F. W. BECK, who has given considerable attention to the legal aspect of the matter, thought that a general fixing of standards for natural products or articles of simple manufacture was of very doubtful utility, and that a standard was futile in the case of mixtures such as coffee and chicory and prepared cocoa. He expressed the opinion, however, that some better legislative control was needed in regard to the use of colouring matters and preservatives.

The position of English legislation and administration in regard to food was admirably summed up by Dr. G. S. BUCHANAN of the Local Government Board.

Mr. E. RUSSELL and Mr. F. W. F. ARNAUD suggested new standards for fat in milk based on the average monthly percentages obtained in the case of two large towns submitting more than 500 samples of milk for analysis annually. The authors suggest seasonal standards, as, for example, a 3 per cent. standard for four minimal months, raising this to 3·3 per cent. for other periods of the year. On a low figure for fat, such as 2 85 per cent., for the minimal period, this would be raised to 3·5 per cent. during the maximal period, the standard being 3·3 per cent. for the intermediate months. It is contended that these standards would at least render the task of the skilled adulterator more difficult in preparing "legal" from pure [illegible] the requisite quantity of separated [illegible] the same section it was agreed to [illegible] uct of distillation of the fermented juice of the grape" without regard to the kind of still in which it was obtained. Other articles of food were also considered and standards suggested. The consensus of opinion was in favour of the formation of a board of reference to deal with these questions.

Dr. W. H. WILEY in his paper on Food Control in the

United States pointed out that the Food and Drugs Act in that country was administered by the Secretary of Agriculture who, under the authority of Congress, established standards of purity. He said that the system worked well, the consumer being protected and the supplier unhampered.

There were several interesting topics discussed in the hygiene section, Sir JAMES CRICHTON-BROWNE taking Sewage Disposal and Disinfection as the theme of his presidential address. He pointed out that nature was constantly engaged in disinfecting the globe; the ocean was a pickle-tub, the air an indefatigable fumigator, and the sun a revolving incinerator. He pointed out also the importance of placing the supply of disinfectants under control in order to secure the sale of disinfectants of guaranteed germicidal efficiency.

Mr. A. WYNTER BLYTH, in a paper on the subject of Disinfectants, argued that the bacteriological test for disinfectants cannot be used alone for standardisation purposes owing to the want of agreement in the results obtained by different bacteriologists using the same standard method. He contended that chemical analysis should be combined with bacteriological tests.

In the same section there were some interesting papers, which we hope to refer to in a future issue, on such questions as the pollution of sea water by sewage, the better utilisation of sewage sludge, and the purification of streams. Space also for the present precludes us dealing with the many excellent papers on pharmacological subjects discussed in the pharmaceutical chemistry section. There were also a number of papers read on synthesis, analysis, helium, smoke, dust, and so forth, a further reference to some of which we hope to have the opportunity of making in the future. We agree with the *Times* that if congresses had as much respect for time as newspapers are compelled to have for space they would reform their programmes in the direction of brevity.

The proceedings were formally closed on Wednesday, when it was announced that a direct invitation had been received from the United States Government to hold the next meeting, which will be in 1912, in that country. The invitation was cordially accepted.

THE SECOND INTERNATIONAL CONGRESS ON THE CASUALTIES INCIDENT TO LABOUR AND INDUSTRY.

AFTER a brilliant inauguration on Monday, May 24th, in the Hall of the Horatii and Curiatii in the Roman Capitol, at which the spokesmen were the Syndic, Signor Nathan, the Minister of Public Instruction, Signor Rava, Dr. Guido Baccelli, and the President of the Organising Committee, Professor Salvatore Ottolenghi, the Congress, to the number of nearly 500 delegates, Italian and foreign, proceeded to the Policlinico, the great hospital outside the Porta Pia, and occupied the afternoon sitting with special business. The first paper was that of Signor P. Colajanni—an elaborate report on the "Organisation of the Medico-Chirurgical Service for the Cure and Surveillance of the Lesions incurred by the Labourer and the Artisan," in the course of which he dealt with the casualties incident to those employed in the Sicilian sulphur mines and gave a luminous account of the services, medical and surgical, organised in behalf of the sufferers, dwelling particularly on the working of the "Obligatory Syndicate of Mutual Assurance." Signor Colajanni's positions were well maintained in the ensuing discussion, which was followed by papers from German, Dutch, and French delegates, all contributing illustrations and suggestions gathered from special experience in cognate fields.

On the morning of Tuesday (May 25th) the Congress resumed business under the presidency of Dr. Thiem, representing Germany; Dr. Poëls, representing Belgium; and Professor Ottolenghi, Professor Tamburini, and the Commendatore Magaldi representing Italy. The main topic of discussion was the report on the "Organisation of the Medico-Legal Service in cases of Casualty and on the Guiding Principles to be followed by the Expert in Diagnosis." Dr. Becker, speaking from German experience, discussed the features of "simulation" in the casualties incident to labour and industry—"simulation" not the result of attempted malfeasance or deception. Dr. Miller (the reporter) contended that the rules laid down for expert guidance in the law of June 30th, 1900, were only sufficient for the more necessary requirements in protecting the "diritto d'assicurazione" (right of insurance companies), and did not suffice for "questioni giudiziarie" (questions before the law courts). Descending to points of detail, the Congress heard with interest the remarks of Dr. Giuseppe Gradenigo, professor of oto-rhino-laryngology in the University of Turin, who deplored the incompetence of non-expert dealings with injuries of the throat, ear, and nose, illustrating his position with concrete examples, a position reinforced by Dr. Poëls, who also maintained the necessity for more specialised knowledge and experience on the part of practitioners called in on occasion of indemnity for lesions incurred in the industries. Third in order on the agenda paper came the topic headed "Ascertainment and Prognosis of Neuroses in Casualties Incident to the Labourer and the Artisan." On this the chief spokesman was Dr. Cesare Biondi, professor of legal medicine in the University of Cagliari (Sardinia), who dwelt on the early or precocious symptoms of the neuroses in question, and was followed by Dr. Poëls and Dr. Tamburini, professor of psychiatry, theoretical and clinical, in the University of Rome, the latter of whom contributed much interesting illustration of the "traumatic neuroses." Dr. Biondi, after a rather searching crossfire of questions from other delegates, French, German, but mostly Italian, maintained his positions in a highly effective speech, and sat down amid applause.

The business of Wednesday, May 26th, turned primarily on the "Estimate of the Capacity for Work before and after Lesion," the first delegate to intervene in the discussion being Professor Carrara of Turin, who contended that in many ailments attributed to casualties in the factory or the field it was impossible to diagnose, in a manner medically sound, the nature and extent of the particular lesion. Professor Imbert of the University of Montpellier spoke on the legal difficulties in assigning compensation for injury, and was followed by Dr. Poëls, who animadverted on the want of method and system inherent in existing legislation for making the "estimate" in question. Dr. Treves of Milan added other considerations in a cognate sense, and pointed out that in estimating the victim's capacity for work before or after injury the expert should take into account the "ambiente" (surroundings, material and moral) of the industry or labour in which the said victim was engaged. At this point Dr. Mennella (medical major in the army) gave instances of how the lesion, when traumatic, perverts the functions of the nervous system and affects, pathologically, those of the viscera by vaso-motor disturbance—the digestive and genito-urinary apparatus being so involved as to cause "auto-intoxications" which aggravate and prolong the post-traumatic effects and give rise to many symptoms, neurotic and psychical. Dr. Liniger, who holds the chair of Social Medicine at Düsseldorf, urged the necessity, in estimating capacity for work after injury, of supplementing the examination of the practitioner called in by that of another with a view to "check," so as to arrive at a less disputable judgment, and, following up his contention, he drew a strong distinction between the direct and the indirect consequences of injuries sustained. From this stage the discussion expanded over a wide area, Dr. Le Noir of Paris incurring the adverse criticism of Dr. Reclus, who argued that the injured operative should be indemnified in proportion to impaired capacity for work without consideration of the possible effects of pre-existing ailments in modifying the nature and consequences of his injury.

After many opinions, *pro et contra*, had been heard, the Congress left the subject unsettled and passed to the next topic dealing with the "Influence of the Forms of Indemnification on the Estimate of Post-traumatic Nervous Disorders," which again proved fertile in controversy. Dr. Oettinger said that "the nervous phenomena observed after traumatic lesion have become even more frequent since the passing of new laws on the casualties in field and factory"—in abatement of which fact he recommended that the "juridical position" of the injured operative should be fixed with least possible delay and that a "small fund of indemnity" should be instituted *ad hoc*. Dr. Lombroso of Florence urged the importance of losing no time in paying the indemnity as soon as the "malattia nervosa post-traumatica" had been ascertained. Again the discussion diverged into subtleties more [illegible] not without a sense [illegible] Adaptation of [illegible] tizzati). This proved a most interesting theme, in the discussion of which the successes of the mechanician working in concert with the surgeon were conspicuously in evidence. Finally, at its closing sitting, on May 27th, the Congress [illegible] views which this theme evoked reference must be made to the official "Resoconto" shortly to be published, as well as for the subsidiary communications submitted in supplement to *the seven main topics dealt with on the agenda paper.*

Thus closed a highly successful Congress on one of the most important subjects of the day, involving issues of the deepest interest to Labour, Industry, Capital, and Science, whether social, medical, or surgical. An eloquent valedicdictory discourse from [illegible] by a motion on the part of Dr. [illegible] as the seat of the next Congress. [illegible] mation and the delegates thereafter proceeded "from labour to refreshment" in the form of a sumptuous banquet in the Hôtel Excelsior.

HEALTH OF THE CITY OF LONDON.

WE are indebted to Dr. William Collingridge for a copy of his recently published report as medical officer of health of the City of London. In this report, which is the ninth by the present writer, the sanitary condition of the City in recent years is compared with that obtaining in the middle of last century—very much, we doubt not, to the gratification of the City Corporation. In connexion with the vital statistics of the City, the first matter to claim attention is the unique character of its population. Dr. Collingridge reports that some persons who desire to belittle the importance of the City frequently allude to it as of only one square mile in area, with a decreasing and insignificant population. To this calumny the report supplies the sufficient refutation that whilst the number of persons passing the night within the City is probably less than 20,000, the number congregated on that area during the daytime is estimated to exceed 385,000. Of the magnitude of the assemblage of human beings that daily takes place in the City some idea may be gathered from a further statement in the report that the number of persons known to have entered and left the City on one day alone in May, 1891, was not less than [illegible] to the foregoing facts, and especially [illegible] properly urges upon his sanitary authority the necessity of ascertaining, by actual enumeration, the number of persons resident in the City during the working hours of the day. Dr. Collingridge tells us that the taking of the first day census of London was decided upon by the City Corporation in the year 1866, a special committee of which reported, at the time, as follows:—

> The Imperial Census taken decennially under the authority of Parliament affords no indication whatever of the actual population of the City, and every recurring census only leads further astray in this [illegible] wealthiest commercial emporium to be found in the world.

In view of the near approach of the next Imperial Census year, and having regard to the desirability that no time should be lost in making the necessary preliminary arrangements, the medical officer of health recommends that provision should be made for the day enumeration above referred to at or near the date of the next Imperial Census taking—i.e., in 1911.

Very remarkable is the improvement that has taken place *in the health and sanitary environment of the citizens of* London within the last 60 years. In order to appreciate the growth of reform it will suffice to compare with the state of things now happily existing the deplorable conditions of life in the metropolis in the days of Sir John Simon, the first medical officer of health. Reporting in 1849, Sir John Simon stated that "as far as could be ascertained there were within the City some thousands of houses with cesspools attached to them, and that the supply of drinking water was only a fraction of what it should be. Thousands of the people had no supply of water to the houses in which they dwelt. For possession of the first necessity of social life such persons wholly depended on their power of attending, pail in hand, beside the nearest stand-cock, where, with their neighbours, they waited their turn during the tedious dribbling of a single small pipe." Again, in referring to the conditions then prevailing in tenement houses he wrote: "It is no uncommon thing, in a room 12 feet square or less, to find *three or four* families *styed* together (perhaps with infectious disease among them) filling the same place day and night—men, women, and children in the promiscuous intimacy of cattle. Of these inmates it is nearly superfluous to observe that in all offices of nature they are *gregarious and public*; that every instinct of personal or sexual decency is stifled; that every nakedness of life is uncovered there. Who can wonder at what becomes, physically or morally, of infants begotten and born in these bestial crowds!" A cursory perusal of the present report will suffice to show how vast is the improvement that has been effected in all that concerns [illegible] citizens of London [illegible] mation of new [illegible] the demolition [illegible] llings for the working classes has been willingly met by the ratepayers. In no other town at the present day is the work of public cleansing more thoroughly attended to, and nowhere is sanitary accommodation for visitors better provided for. Without a pure and plentiful water-supply no community can be held to be living under satisfactory conditions of health or even of cleanliness. Dr. Collingridge reports that the citizens have no reason to complain of the quality of the water supplied to the metropolis, but that they do complain bitterly of its cost. In consequence of what is considered unfair taxation in this regard, a considerable number of artesian wells have been already sunk in the City, and many more are now in process of construction. In every instance in which the water from these wells has been examined the public analyst has testified to its excellent quality.

The character of the food-supplies of the City received special attention during the year under report. We are not surprised to hear that the due supervision of the quality of the meat and other food which in enormous quantity passes through the City markets entails heavy responsibility on the sanitary staff, and this responsibility has been further augmented by the issue of new regulations by the Local *Government Board.*

The milk-supply of the City has been kept under constant supervision, and the milk arriving in London for delivery to dealers in the City has been subjected to bacteriological and chemical investigation by the officers of the health department. Very full, if *somewhat startling*, particulars are given in the report concerning the analysis of milk samples in each of the last four years, the results of examination being tabulated under the following heads: (1) fairly clean and pure; (2) unclean; and (3) tuberculous. Notwithstanding the publicity given in recent years to the details of analysis of milk by the public analyst, the present report shows that even in the year 1907 not less than 37 per cent. of the *samples analysed* were returned as "unclean," whilst 8·3 per cent. were returned as "tuberculous." The proportion *of tubercle-contaminated milk in the City supply* appears to have been practically constant in recent years, and it is important to note that in every case in which milk has been condemned as tuberculous the bacteriological result has been confirmed on examination of the herd of cows producing it. There is little reason to look further afield for the causes of human tuberculosis, unless the degree of contamination in the milk-supply of London is enormously greater than that of the country generally. The value of bacteriology as a means for determining the presence or absence of disease in *milk is abundantly shown in the present report*, and it is not a little surprising to learn that practically no precautions are even yet taken by either farmers or wholesale dealers to ensure that the milk shall not be a vehicle for the conveyance of tuberculosis.

Dr. Collingridge is clearly of opinion that the control of milk-supplies is a matter for the supreme authority of the Board of Agriculture and Fisheries, whose business it should be to see that the Dairies, Cowsheds, and Milk-shops Orders are effectively carried out by those responsible for their administration. While the best method of controlling the milk-supply is undoubtedly at its source—viz., the farm, there is no real difficulty in effecting this on the spot by the local authority, for upon bringing the facts to the notice of the local medical officers of health steps have promptly been taken in every case to improve the local sanitary conditions of the farm concerned. This indicates that there is no necessity for a central authority to waste time and money in inspecting country farms where their intrusion would be resented, all that is necessary being for each urban authority to maintain strict supervision over the purity of the milk supplied to the district, and where this is unsatisfactory to communicate at once with the local authority and also with the Board of Agriculture and Fisheries. Dr. Collingridge questions the wisdom of the London County Council in its present attempt to acquire powers for examining milk at the metropolitan railway stations with a view of preventing the distribution of dirty milk. Obviously it would be better to eliminate the risk of danger at the farm than to seek to control it after delivery in London. He expresses his conviction that piecemeal legislation of this kind can never be effective, and that the only satisfactory way of dealing with this question is for the Government to proceed at once with the long-promised general measure dealing comprehensively with the subject. In this connexion it is satisfactory to note that last week Mr. John Burns introduced into the House of Commons his promised measure entitled "The Milk and Dairies Bill," which seems likely to be effective provided that it eventually obtains a place in the Statute Book; some of the provisions, however, will provoke opposition. And however thorough may be the supervision of the milk farm, there are other factors prejudicially affecting the wholesomeness of the milk during its transit to London. For example, the churn in common use is sadly ill adapted for its purpose, as it affords a resting-place for filth which readily obtains access to the milk through the ventilating apertures in the lids. Moreover, the churns are often returned to the farmers unscalded and even unlocked, so that there is no guarantee that even ordinary cleanliness has been observed. Again, the practically universal system of mixing at the metropolitan railway stations necessarily leads to exposure of the milk to contamination by the dust constantly present in the atmosphere of a great city. At the stations the milk is treated with a "rouser," which has often been allowed to stand on the dirty platforms; and the mixing is conducted by the operator, who plunges his naked arm into the churn, transferring some of the milk to another vessel. In these several ways the milk runs the risk of serious pollution before delivery to the consumer, who, seldom adopts the precaution of boiling it before use as food.

Of the investigations undertaken during the year for the detection of obscure disease, and of the administrative measures adopted for the protection of the public health, the report contains full and very instructive particulars. Among these the most far-reaching and important is the investigation which was undertaken with the aid of Dr. Klein, and which establishes the value of bacteriology as a means of elucidating difficult sanitary problems. Dr. Collingridge gives account of an outbreak of illness occurring in a large business establishment in the City in which a large number of persons became seriously ill, apparently as a result of ingesting a quantity of "vermin destroyer" which had in some way got mixed with their food. In every case the illness is described as having been very severe, although happily not fatal, the patients having recovered by the end of a week from attack. What is particularly important from a public health point of view is the fact that examination of the excreta of the patients showed the presence of the same bacterium which is contained in the vermin destroyer and which is stated to be fatal to rats, mice, and other rodents, but to be harmless to domestic animals and to human beings! In view of this investigation the truth of the latter clause of the statement would appear to be more than doubtful. Indeed, a representation has already been made to the Government, as a result of which it is hoped that some restriction will be placed on the indiscriminate sale of vermin poisons of this nature.

The usual tables of vital statistics are included in this report, and Dr. Collingridge is able to report a death-rate for 1908 of only 12·6 per 1000 of the population; this rate is almost identical with the rate of the preceding year, whilst that of the entire County of London was 13·8.

The useful standard tables issued by the Local Government Board are appended, and especial prominence is given to the infantile mortality table, which shows the loss of life from the principal causes at the several stages of the first year of age. Measured in terms of total births the deaths of infants under the age of one year were only 65 per 1000, as against 113 per 1000 for the whole of London.

SANITATION IN INDIA.

VI.[1]—JAILS (*continued*).

Burma.

THE report for the year 1907 on the Prison Administration of Burma is furnished by Lieutenant-Colonel G. J. H. Bell, I.M.S. The number of jails in this province are six central and 24 district jails. At the beginning of the year the total number of prisoners of all classes in confinement was 14,129, an increase of 901 over the corresponding numbers for 1906. During the year, however, there was an actual decrease of 1201 in the number of prisoners admitted, the numbers being respectively (for 1906 and 1907) 35,674 and 34,473.

We are glad to note that a wise reform in the jail administration has now been perfected—namely, the segregation of juvenile criminals from the rest of the jail population, whilst arrangements are also being made to provide separate accommodation for juvenile first offenders and juvenile habituals. The jail at Meiktila has been set apart for this purpose. Certain structural alterations require to be made in this jail, the details of which are being worked out by the Public Works Department; the jail when altered will provide separate accommodation for 100 juvenile first offenders and 50 juvenile habituals, thus supplying a long-felt want; for these new arrangements should add very largely to the reformatory and educational character of sentences of imprisonment passed on juvenile offenders. With regard to the number of these prisoners in the year under review they fell from 171 in 1906 to 89 in 1907. Another fact that should be noted is the general decrease of 54 in the number of offences of assaults and mutiny. This, though not so large as in the preceding year, is still very satisfactory. Rangoon, however, showed a very marked increase in this class of offence—viz., from 50 in 1906 to 178 in 1907. The superintendent of the jails reports that the assaults were not due to any combination amongst the prisoners, but that each case was an attempt apparently to take revenge for a private grudge or was due to sudden outbreaks of temper.

Coming now to the vital facts relative to the jails in Burma it is evident that wise forethought has been exercised in this direction. With regard to the water-supply samples were sent to the chemical examiner for analysis, and when the report thereon was unfavourable steps were taken to remedy the defects. In several jails the drinking water is boiled. Water drums fitted with taps and locks are being supplied, only two jails remaining without them. Other means of ensuring a good water-supply were the improvement of existing filtering arrangements. Thus at Thayetmyo a masonry cistern for cooling the filtered and boiled water was provided and brought into use in August, and as one cistern was found to be inadequate the provision of another was approved of. At Myingyan the excessive amount of total solids in the drinking water has been suspected of being the cause of cases of muco-colitis. Over-concentration by prolonged boiling probably had the result of increasing this defect, and care is now taken that the water is boiled only for 10 minutes. At the Rangoon jails the chief source of the water-supply therein was pronounced by the chemical examiner to be unfit for drinking purposes owing to the presence of organisms of the coli group and its use was discontinued for the greater part of the year The water has, however, been now declared to be fit for drinking It may be mentioned also that the Inspector General acknowledges a plan furnished to him by Colonel King I M S , the Sanitary Commissioner, for an overhead shower-bath for use in jails Lieutenant Colonel Bell has introduced this system for trial into one of the sections of the new jail at Moulmein, and should it be found satisfactory and not too expensive its use should be extended to the other jails Regarding the employment of the prisoners, some difficulty in obtaining a sufficient amount of hard labour was experienced in certain of the jails Wheat grinding provides a most suitable form of labour for a large number of prisoners Stone breaking in the Rangoon jail has had to be discontinued on account of the removal of the municipal stone depôt to a site to which the prisoners could not be sent the expense involved in carting the stone to and from the jail being too prohibitive Lieutenant Colonel Bell regrets that this excellent and remunerative form of hard labour, which had for many years employed a large number of prisoners, has been unavoidably lost to the jail department

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[1] Nos. I., II., III., IV., and V. were published in THE LANCET of April 10th (p. 1067) and 24th (p. 1199), and May 1st (p. 1269), 15th (p. 1412), and 22nd (p. 1480), respectively.

With respect to the lines on which the conservancy arrangements are being carried out, the Inspector General finds that the latter are efficiently performed He also has wisely, we think, not discontinued the system of mounding excreta previous to their use as manure in certain of the jail gardens This system has had the approval of his predecessors in office for many years, and with proper precautions has always been found successful

Coming now to the sickness and mortality experienced in 1907 in the jails of Burma, we find that though the daily average number of prisoners in confinement rose from 13 370 to 13 721, the number admitted to hospital decreased from 3736 to 3506, the daily average sick from 211 to 190, and the deaths from 198 to 163 The ratio per 1000 of average strength as regards admissions to hospital fell from 297 43 to 255 52, of daily average sick from 15 78 to 13 85 and of deaths from all causes from 14 81 to 11 88 as compared with 1906, showing that the standard of health in 1906 has been more than maintained during the year under review, the ratios of admission, daily sick, and deaths to daily population during 1907 being the lowest recorded since 1892 There has been a remarkable change for the better in the case of some of the jails Thus Thayetmyo, which for two years showed the highest death rate in the year under review occupies the lowest place, the ratio being now 3 65, as compared with 28 99 in 1906, although the daily average population increased from 759 to 821 Moreover, in none of the causes of death reported could any influence of jail life have been the cause, the causes being leprosy, volvulus, and erysipelas The superintendent of the jail, Major E A L Hammond, I M S
improvement to
year of his hospi
Bell, we are glad to note, strikes the right nail on the head when he states that the careful management of the sanitary and medical work of the jail by Major Hammond must have largely contributed to the satisfactory result that has been gained In another of the jails—viz , Myingyan—showing these excellent medical results the superintendent does not take any credit to himself , but it is evident that such good results could not have been obtained without great care and attention both by the superintendent, Lieutenant Colonel Stewart, and his hospital assistant Lieutenant Colonel Bell likewise praises Dr Hollingsworth the superintendent of the jail at Myaungmya, for his creditable management of the jail

As regards the chief causes of sickness and mortality in 1907, there were four cases of cholera, three proving fatal All were imported cases and one in particular showed the value of the segregation of new admissions The prisoner in question was received on transfer from another jail, placed on arrival in the segregation shed outside the jail and whilst there developed symptoms of cholera and died within 24 hours He was stated to have received some food from a hawker at the Pegu railway station cholera being then prevalent at that station Dysentery gave a slight increase in the number of admissions—viz , from 223 to 256—but the number of deaths was only seven as compared with 18 in 1906 With regard to the causes of the disease in one jail, as before remarked, the cases were most likely not dysentery, but muco colitis, possibly due to the already large proportion of solids in the drinking water having been increased by concentration through over boiling , although the Inspector General thinks it probable that some cause other than the quality of the drinking water may be found for the occurrence of these cases In those jails where there has been a reduction in the number of cases this has evidently been due to the superintendents being fully alive to the necessity for strict precautions being followed with regard to segregation of dysentery patients, the protection of drinking water from contamination, the use of separate clothing, beddings, and utensils, and the disinfection and destruction of all excreta and refuse food Malaria showed a noteworthy reduction in the number of cases , thus in 1905 there were 632 admissions , in 1906 635 admissions , but in 1907 only 489, or a ratio of admissions per 1000 of average strength of 52 88 50 37, and 37 59, and of deaths of 0 59, 0 48, and 0 23 With reference to this striking decrease it is to be noted that there were no extraordinary meteorological phenomena in 1907, the rainfall was fairly well distributed and of a good quantity In 1906 the rains had been light, and the superintendent of one jail, Akyab, held that this had had something to do with the increase The prophylactic use of quinine certainly was of value in reducing the number of cases, and is fully recognised The method in use is that every prisoner who is believed to have suffered from malaria is given 10 grains of quinine twice weekly, and the treatment is continued until it appears that the prisoner is free from malaria A register of the cases is carefully kept As regards the diagnosis of the cases returned as malaria, blood examinations were systematically made in all cases of fever, and in by far the large majority of cases returned as ague the presence of the malarial parasite was demonstrated, whilst in the few cases in which it was not the symptoms were so typical as to leave no doubt of the disease Captain H H G Knapp I M S , the jail superintendent, Rangoon, has evidently followed the example of Colonel W J Buchanan, I M S , who some years ago trained certain of the convicts to diagnose the organism microscopically The increase of the number of cases in this jail, where malaria is only returned as such when the organism has been found is evidently partly due to the greater degree of skill possessed by the convict who conducts the microscopical examination Tuberculous diseases showed a fall in the number of admissions and deaths being 68 and 43 respectively, as compared with 114 and 54 in the previous year Great attention is paid to prophylaxis in these cases, and in this respect the Inspector General draws attention to the necessity of seeing that each patient's blanket is kept exclusively for his own use, and also for the careful washing and disinfection of all blankets when in use and when received back into store The work of disinfection is rendered easy by the use of Thresh's disinfectors one of which has been supplied to each jail Proposals for the construction of a separate jail or ward as an annexe to one of the existing jails in the dry zone, for the accommodation of 50 prisoners suffering from tuberculosis but to be made capable of further extension, have been submitted to Government but are still under consideration It is much to be desired that the necessary sanction be granted With respect to the cases returned as "simple continued fever," the Inspector General states his opinion that not a few of these are due to tuberculosis There can be little doubt we think, but that he is right In many parts of India cases occur in which for some days, or even weeks no thoracic signs are found and which suddenly light up into acute tuberculous affections of the lungs This has been especially noted to occur in the case of Goorkhas Plague, notwithstanding its prevalence in many districts, gave only two cases in the Burma jails during the year , one of these (a bubonic case) was at once recognised on his arrival at the jail gate by the hospital assistant During the year steps were taken to render the grain godowns in or attached to jails rat proof and at the close of the year the work in 19 jails had been completed and estimates had either been sanctioned or were in preparation for the remaining jails The Inspector General tenders well deserved praise to the superintendent subordinate medical staff and jailers for the success attained in keeping the jails free from the disease during the year The report concludes with the usual appendices

EGYPT IN 1908.

Sir Eldon Gorst's second annual report on the progress made in the various departments of the Egyptian Government is, like its precursor, drawn up for the year 1908 in accordance with the model established by Lord Cromer, and, unlike most official documents, is consequently as easy to read as it is full of information; but although the sum total of the latter is, generally speaking, satisfactory, it is disappointing to learn that the working of the existing institutions by which the people are already associated with the functions of government is by no means all that could be desired, and that the Legislative Council and General Assembly are losing ground, the part played by these bodies in the administrative system of the country being less efficiently performed than heretofore. The first subject dealt with by Sir Eldon Gorst with which we are more particularly concerned is the census of 1907. The number of persons enumerated in the ordinary way was 11,189,978, including 147,334 foreigners. The Bedouins, who live scattered over vast and more or less desert tracts, and are not collected in any considerable number at definite points, were not enumerated, but estimates of their strength, amounting in the aggregate to 97,381, were furnished by their Omdehs, or head men, the total population of the country being thus brought up to 11,287,359 individuals divided into 5,667,074 males and 5,620,285 females. In 1897, when the previous census was taken, the number of inhabitants, according to a corrected statement, was 9,717,228 persons of both sexes (including eunuchs); the increment during the ten years was consequently upwards of a million and a half, which gives an annual augmentation of 1·6 per cent.[1] The inhabited areas of Egypt being equal to about 12,000 square miles the density of the population, omitting the sparsely peopled desert regions, was 939 per square mile. This largely out-distances all the European countries, the nearest approach to it being the 588·7 per square mile of Belgium, and, as Sir Eldon Gorst observes, "It seems probable that nowhere outside Bengal will an area of like size be found carrying so dense a population of a similar non-industrial character." Egyptians are essentially a gregarious people, isolated dwellings being very rarely met with. The vast majority of the population is spread over two cities, 43 towns, and 3581 villages. The number of inhabitants per 100 houses is returned in this census as 581 for the country as a whole, the range extending between 319 and 947. The total number of inhabited houses is 1,927,352 as compared with 1,418,891 in 1897. The house was the smallest structural unit dealt with except in Cairo, Alexandria, and Port Said, where an attempt was made to ascertain the number of living rooms per house. The data obtained, Sir Eldon Gorst fears, are not very trustworthy, but so far as they go are interesting. "If they are to be believed," he continues, "overcrowding is present in three out of the 13 divisions of Cairo. The English standard of overcrowding is a house containing more than two persons per room, and in six divisions is this proportion exceeded. …… Turning to Alexandria we find that three out of the seven divisions are overcrowded. …… The density of Port Said is 198 persons per 100 rooms, just below the overcrowding limit."

Public Health.—In 1908 there were in Egypt 21 general hospitals open to the public and containing 2153 beds. The number of in-patients treated during the year was 33,241. In 1888 there were 20 hospitals open, but the number of patients treated in them was only 11,834. The number of out-patients seeking relief in 1908 was 181,580, but in 1888 this service was non-existent except at Kasr-el-Aini, where an out-patient department had been inaugurated a year or two previously. Sir Eldon Gorst adds that, "in addition to the provision of hospitals, efforts are being made to bring simple medical aid within the reach of the people in the more remote villages, and with this object the Sanitary Department is instituting gradually in every district fully equipped dispensaries and first-aid establishments, under the direction of the local medical officer. There are at present 48 of these dispensaries, and the total number of applications for assistance was 38,000, as against 24,500 in 1907." Dispensaries on the lines indicated were first started in 1887, when seven establishments were opened in suitable localities. The following year three more were opened, and in 1889 there were altogether 13 in active operation. The travelling ophthalmic hospitals instituted by Sir Ernest Cassel have now become a branch of the Public Health Department, and according to Sir Eldon Gorst "it may be hoped that in time permanent eye hospitals will be established in all the larger towns, combined with travelling hospitals for the country districts. During 1908 7764 patients were treated, and the number of cases refused on account of lack of accommodation was 10,445." The permanent eye hospital at Tantah built by the Government was completed and opened to the public in November. At Assiout, where the inhabitants have subscribed £E5000 for the purpose, it is hoped that a new ophthalmic hospital will be opened shortly; and at Mansourah, where a local notable has contributed a similar sum, there is every prospect that a permanent institution for eye affections will soon be completed. In this connexion it may be mentioned that the Egyptian Government has recently decided to support the annual cost of maintaining all such hospitals as may be constructed by private enterprise. In a note submitted by the Financial Adviser and quoted by Sir Eldon Gorst we find it stated that an additional sum of £E17,340 has been allocated between the Government hospitals and prisons in the Budget for 1909; and also that £E33,000 have been provided for the construction of the new lunatic asylum at Khanka and for increasing the accommodation at the Abbassieh Asylum.

For the long-delayed Cairo drainage scheme a grant of £E70,000 has been authorised; and as the consent of all the Powers to an augmentation in the house tax of the city from 8 to 10 per cent. has now been received there is at least a good prospect that this most necessary work will soon be commenced. The important subject of a good water-supply for the capital of Egypt is still under discussion, but it is hoped that within a reasonable time a definite conclusion may be reached.[2] Means have been found to secure the removal of iron and manganese, but the water still remains too hard and has not as yet attained to a standard "approximating in character to that of the Nile." In the second city, Alexandria, the great question of drainage is still in abeyance. Sir Eldon Gorst says that an approved scheme has now been completed, but until some way of raising funds for its execution can be found this essential work cannot be proceeded with.

(To be concluded.)

Public Health.

ANNUAL REPORTS OF SCHOOL MEDICAL OFFICERS.

The City of Exeter.—The inspection of the school children in this district is carried out by Mr. P. H. Stirk, a specially appointed officer, who apparently devotes his whole time to the duties of the office. There are in the city 21 schools, comprising 42 departments and 7521 children, and the school medical officer is assisted by one school nurse, who is present at the examinations and visits the homes of the children to impress upon the parents the importance of acting upon the advice of the medical officer, and assists them in dealing with verminous conditions. Mr. Stirk thinks that the inspections during 1908 did not interfere with the grant-earning capacity of the schools except in cases where scholars were kept away from the schools by the parents in order to evade the examinations. He suggests, however, that the Board of Education should sanction the use of the central office for difficult cases which it is impracticable to examine at the schools, and that the time so occupied should be recognised as part of school attendance. In all 880 boys and 880 girls were examined in the schools and 40 children in their own homes, making a total of 1800, this number including 366 known to be defective by the teachers. Exclusive of the verminous, ill-clad, and ill-nourished, 743, or 42·2 per cent., were either physically or mentally defective. The time occupied in the examination of each child inclusive of completing the tabular records was approximately 12 minutes. The parents and the school nurse are informed of the defects in each case and the nurse repeatedly visits the home of the child until treatment is obtained or a refusal to obtain treatment given, but at the end of three months where no treatment has resulted the case comes up for re-consideration. As to the sources of treatment, all patients able to pay are referred to their private medical practitioners for medical, surgical, or dental assistance, but apart from these cases use is made of one or other of the charitable institutions with which Exeter is richly endowed—i.e., the Royal Devon and Exeter Hospital (200 beds), the West of England Eye Infirmary (80 beds), the Exeter Dispensary, and the Exeter Dental Hospital. As regards the Eye Infirmary a subscriber's recommendation is necessary before advice can be obtained and such recommendation does not include the cost of glasses, which varies from 2*s*. 6*d*. to 7*s*. 6*d*. per pair. Teeth are extracted at the Dental Hospital free of charge except where an anæsthetic is required, in which case a subscriber's letter is necessary. It appears that 65·1 per cent. of the children recommended for treatment have obtained it in a satisfactory fashion, but in 24 cases the parents declined to take any action. There were 35·2 per cent. of the girls in a verminous condition, and Mr. Stirk remarks that it is "a deplorable fact that the children of clean, respectable parents cannot be sent to the public elementary schools without the certainty of contracting at some time or other this disgusting and entirely preventable condition." He trusts that the Children Act which is now in force will be taken full advantage of in the case of those verminous children who are habitually neglected.

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[1] In the return the augmentation is shown as 1·5 per cent. but this is evidently a printers' error.

[2] For a full account of the proposed drainage of Cairo and the various [illegible] we may refer to articles which have [illegible] il 3rd (p. 1014) and 24th (p. 1209) and [illegible] 1909.

Considerable difficulty is experienced in persuading the parents to take action with regard to their children's teeth, and Mr. Stirk points out that the number of recruits rejected by the military authorities on account of dental insufficiency in 1907 was nearly double that for any other defect. Although in 1906 the standard of "masticatory efficiency" was lowered and the dental treatment of recruits introduced, in 1907 no less than 48·17 per 1000 of the recruits were rejected. Of the total number of children 11·5 per cent. were habitual mouth-breathers, a circumstance generally due to enlarged tonsils, adenoids, nasal obstructions due to enlarged lower turbinate bones or deviations of the nasal septum. 6 per cent. of the children had enlarged tonsils and adenoids, and Mr. Stirk insists upon the uselessness of having adenoids removed unless their removal is followed by systematic and suitable breathing exercises. It is of interest to observe that of all the children examined only one showed definite pulmonary tuberculosis and only seven children showed other tuberculous lesions. But, as Mr. Stirk points out, the majority of children with tuberculous lesions do not attend school. An interesting section of the valuable report before us relates to the subject of the correlation of the school medical department with that of the medical officer of health. On every Friday the head teacher compiles a return of all children absent from school during the week from illness, together with the supposed cause of absence, and these returns, after tabulation of the children absent from infectious disease, are sent by the school medical officer to the medical officer of health, any doubtful case being visited by the health visitor to verify the supposed cause of illness. On the other hand, the medical officer of health notifies to the education authority all cases of notifiable infectious disease amongst school children or in houses in which school children reside, furnishing also the names of children who have been excluded from school on this account. Mr. Stirk is, he reports, preparing a "susceptibility table," which would show in the event of an outbreak of infectious disease the number of children who are unprotected in each school. So far it has been found that the children inspected have suffered from the common infectious diseases as follows: measles, 70 per cent.; whooping-cough, 49 per cent.; chicken-pox, 25 per cent.; diphtheria, 25 per cent.; and scarlet fever, 7 per cent.

The County of Surrey.—The Surrey county council has not apparently acted upon the spirit of the circulars of the Board of Education in so far as making its medical officer of health the superintending officer of school inspection is concerned, since Dr. T. Henry Jones reports directly to the Education Committee. It has, however, adopted what is described as a combined scheme whereby whole-time assistant medical officers have been appointed for the routine inspection of school children, while the services of the medical officers of health are "retained for general hygienic and emergency work in the schools of their own districts." For the purposes of the inspection of school children the administrative county has been divided into four parts and an assistant medical officer appointed for each district. Under the supervision of Dr. Jones, the chief medical officer, each assistant medical officer is responsible for the routine inspection in his district and resides at some convenient centre in such district. We notice that three of the four officers appointed possess the diploma of public health. Dr. Jones states that he is in constant communication with the medical officers of health upon all matters relating to the public health part of the work, and the medical supervision of the schools is so arranged as to avoid any overlapping of the function of the Education Authority and of the various sanitary authorities. The number of school children in the county area (exclusive of the boroughs) is 60,970, and the number allocated to each assistant medical officer varies from 9554 to 18,084. The total number of children at all ages actually inspected was 11,184, but the detailed report relates to the 10,281 routine inspections. Of these, 2017, or 19 6 per cent., were found to be suffering from defects calling for recommendations for treatment. But in addition to these recommendations the attention of teachers was called to 1027 children whose condition called for some modification of school work. The average time occupied by each inspection was under eight minutes, but it is not stated whether this time includes a record of the observations. Amongst other things, the children were inspected as regards their vaccination; 89·3 per cent had been vaccinated, 8 7 were unvaccinated, and as to 1·9 per cent. no information was forthcoming. Presumably if they had been vaccinated the cicatrices had faded. With respect to the treatment of diseased conditions, it was ascertained in February, 1909, that nothing had been done for 55·7 per cent., while in 28·3 per cent. treatment of a satisfactory character had been procured. Some of the parents did not, it seems, concur in the need for any treatment, it being said that "the teeth did not affect health" and as regards [illegible] journeys to hospital. In fact, this county forms an interesting contrast to the city of Exeter, where practically all the cases could receive treatment without expenditure or delay. In the Surrey report it is interesting to note that none of the parents referred to Poor-law medical treatment. If it was procured no mention is made of the fact. In connexion with this problem of treatment Dr. Jones thinks that there are but few districts in which arrangements might not be made for the treatment of the common defects by local medical men, and in his view many of the medical practitioners would treat really necessitous school children at reduced fees, which would amount to less than the cost of journeys to hospital. It seems, in fact, that experiments in the above sense are already in progress, and some of the local medical men have undertaken to estimate the visual defects of school children and obtain spectacles for such children at cost price from the makers at nominal inclusive fees, provided that the social circumstances of the cases are carefully investigated beforehand and that the children are recommended by the school managers. Some investigations were made in the Mitcham district into conditions of underfeeding among children, and Dr. Jones reports that the employment of the mothers has a marked effect upon the condition of their children. Such children, it is added, often enter school at five or six years of age untrained in proper habits and unable to speak properly.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS

In 76 of the largest English towns 8048 births and 4375 deaths were registered during the week ending May 29th. The annual rate of mortality in these towns, which had been equal to 13·7 and 14·7 per 1000 in the two preceding weeks, declined again to 13·9 in the week under notice.

During the first eight weeks of the current quarter the death-rate in these towns averaged 15·1 per 1000; the rate in London during the same period did not exceed 14·6. The lowest recorded annual death-rates in these towns last week were 6·0 in Leyton, 6·5 in Walthamstow, 6·7 in Smethwick, and 7·6 both in Hornsey and in Hastings; the rates in the other towns ranged upwards, however, to 20·7 in Rhondda, 21·1 in Oldham, 21·8 in Middlesbrough, and 23·1 in Warrington. In London the recorded death-rate during the week did not exceed 13·4 per 1000. The 4375 deaths from all causes in the 76 towns last week showed a decline of 275 from the number returned in the previous week, and included 417 which were referred to the principal epidemic diseases, against 395 and 413 in the two preceding weeks; of these 417 deaths, 178 resulted from measles, 102 from whooping-cough, 49 from diarrhœa, 39 from diphtheria, 33 from scarlet fever, and 16 from "fever" (principally enteric), but not one from small-pox. The 417 deaths from these epidemic diseases last week were equal to an annual rate of 1·3 per 1000, against 1·2 and 1·3 in the two preceding weeks. No death from any of these epidemic diseases was registered last week in Blackburn, Walthamstow, Leyton, Northampton, and in six other smaller towns; the annual death-rates therefrom ranged upwards, however, to 2·6 in West Ham, 3·4 in Norwich, 4·1 in Salford, and 9·5 in Wolverhampton. The fatal cases of measles in the 76 towns, which had steadily declined in the ten preceding weeks from 438 to 168, rose again in the week under notice to 178, and caused annual death-rates ranging upwards to 2·2 in Salford, 3·4 in Norwich, and 6·5 in Wolverhampton. The 102 deaths from whooping-cough showed a further slight increase upon the numbers returned in the two previous weeks, the highest death-rates from this disease last week being 1·2 in Wigan, 1·5 in Middlesbrough, and 2·1 in Swansea. The 49 deaths attributed to diarrhœa also showed a slight increase. Of the 39 deaths referred to diphtheria (a decline of 12 from the number in the previous week), four occurred in Birmingham and King's Norton, two in Salford and in Hull, and 19 in London and its suburban districts. The 33 fatal cases of scarlet fever exceeded the number in the previous week by one, and included five in Birmingham and Smethwick, seven in Manchester and Salford, three in Liverpool, and two in Sunderland. The 16 deaths referred to "fever" were fewer by four than the number returned in the previous week, but included three in Manchester and Salford. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2173 and 2234 at the end of the two preceding weeks, had further increased to 2254 on Saturday last; 335 new cases were admitted to these hospitals during last week, against 309, 313, and 348 in the three preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 212, 222, and 214 in the three preceding weeks, increased again to 225 in the week under notice and exceeded by 12 the corrected average number in the corresponding week of the five years 1904–08. The deaths in London referred directly to influenza, which had been 20 and 19 in the two preceding weeks, further declined last week to 17. The causes of 33, or 0·8 per cent., of the deaths registered last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. The causes of all the deaths registered during the week were again duly certified in Leeds, West Ham, Newcastle-on-Tyne, Bradford, Salford, Hull, and in 55 other smaller towns; the 33 uncertified causes of death included eight in Birmingham, six in Manchester, three in Liverpool and in Sheffield, and two in Sunderland and in South Shields.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 950 births and 596 deaths were registered in the week ending May 29th. The annual rate of mortality in these towns, which had been equal to 14·9 and 17·5 per 1000 in the two preceding weeks, declined again to 16·7 in the week under notice. During the first eight weeks of the current quarter the death-rate in these Scotch towns averaged 17·0 per 1000, while in the 76 large English towns the mean death-rate during the same period did not exceed 15·1. The death-rates last week in these Scotch towns ranged from 10·8 and 11·6 in Greenock and Leith to 18·2 in Paisley and 19·4 in Dundee. The 596 deaths from all causes in the eight towns showed a decline of 28 from the number returned in the previous week, and included 68 which were referred to the principal epidemic diseases, against 78, 47, and 76 in the three preceding weeks. These 68 deaths were equal to an annual rate of 1·9 per 1000, against 1·3 and 2·1 in the two preceding weeks; the mean death-rate last week from these principal epidemic diseases in the 76 large English towns did not exceed 1·3 per 1000. Of the 68 deaths from these epidemic diseases last week in the Scotch towns, 40 resulted from whooping-cough, 14 from diarrhœa, five from scarlet fever, five from diphtheria, three from measles, and one from "fever," but not one from small-pox. The fatal cases of whooping-cough in the eight towns, which had been 41, 17, and 38 in the three preceding weeks, rose again to 40 last week, of which 24 occurred in Glasgow, seven in Edinburgh, and three both in Dundee and in Greenock. The 14 deaths attributed to diarrhœa showed a further slight decline from the numbers in recent weeks, but included five in Glasgow, five in Dundee, and two both in Edinburgh and in Aberdeen. Four of the five fatal cases of scarlet fever were returned in Glasgow; and the five deaths from diphtheria included two in Glasgow and two in Paisley. All the three fatal cases of measles occurred in Paisley; and the death from "fever" (certified as cerebro-spinal meningitis) was registered in Edinburgh. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 88, 92, and 109 in the three preceding weeks, declined again last week to 94, but exceeded the number returned in the corresponding week of last year by nine. Seven deaths in the eight towns resulted from violence, of which five occurred in Glasgow and two in Dundee. The causes of 12, or 2·0 per cent., of the deaths in the eight towns last week were unspecified or uncertified; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 18·5 and 22·3 per 1000 in the two preceding weeks, declined again to 21·7 in the week ending May 29th. During the first eight weeks of the current quarter the death-rate in the city averaged 23·0 per 1000, whereas the mean rate during the same period did not exceed 14·6 in London and 16·6 in Edinburgh. The 166 deaths of Dublin residents from all causes during last week showed a decline of four from the high number in the previous week, and included 13 which were referred to the principal epidemic diseases, against 11 and nine in the two preceding weeks. These 13 deaths were equal to an annual rate of 1·7 per 1000, the death-rate from these principal epidemic diseases in the same week being 1·5 both in London and in Edinburgh. Of the 13 deaths from these epidemic diseases in Dublin last week, six resulted from whooping-cough, four from diphtheria, two from "fever," and one from diarrhœa, but not one either from measles, scarlet fever, or small-pox. The fatal cases both of whooping-cough and of diphtheria showed a marked increase upon recent weekly numbers. The 166 deaths registered last week included 32 of infants under one year of age and 47 of persons aged upwards of 60 years; both these numbers showed a slight decline from those in the previous week. Four inquest cases and six deaths from violence were registered last week, and 77, or 46·4 per cent., of the deaths occurred in public institutions. The causes of all but one of the 166 deaths registered last week in Dublin were duly certified; in London the causes of all but one of the 1240 registered deaths were also duly certified, while in Edinburgh the proportion of uncertified causes was equal to 3·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881:—Staff-Surgeon Robert Robertson Fasson has been allowed to withdraw from His Majesty's Naval Service, with a gratuity.

The following qualified candidates for the Naval Medical Service have been appointed Surgeons in His Majesty's

Fleet —Kenneth Hill Hole, Gilbert Francis Syms, Arthur Addison Sanders, Michael Paul Fitzgerald, John Hadwen, Harry Williams Nicholls, Raymond Paul Middleton Roberts, Alfred Graham Malcolm, Horace Charlton Devas, Henry Burns, Hugh Francis Briggs, Gordon Alexander Jackson, William Miller, James Stewart Orwin, and James Barnett (dated May 14th, 1909)

The following appointments are notified —Fleet Surgeons A G Andrews to the *Superb*, A M Page to the *Swiftsure*, J A Keogh to the *Jupiter*, J L Smith to the *Exmouth*, J E Coad to the *Nelson* G A Waters to the *Drake*, W E Marshall to the *Excellent*, additional for the *Revenge*, and T Austen to the *Achilles* Staff Surgeons R A Ross to the *Illustrious*, and J W W Stanton to Plymouth Hospital Surgeons B R Bickford to the *Superb*, P D M Campbell to the *Excellent*, additional for the *Grafton*, A R Fisher to the *Jupiter*, F G Hitch to the *Shannon*, and R L Jones to the *Exmouth*

ROYAL ARMY MEDICAL CORPS

Captain J W S Secombe has been appointed Officiating Sanitary Officer, 3rd (Lahore) Division, vice Captain J H Brunskill, proceeding on leave

TERRITORIAL FORCE

Royal Army Medical Corps

1st London (City of London) Field Ambulance Lieutenant Andrew Elliot, from the 2nd London (City of London) Field Ambulance, to be Lieutenant (dated March 4th 1909)

3rd South Midland Field Ambulance Charles Corfield to be Lieutenant (dated March 18th, 1909) Alfred Coleridge to be Lieutenant (dated March 23rd, 1909)

1st Welsh Field Ambulance Lieutenant Thomas Donovan to be Captain (dated Dec 12th, 1908)

1st London (City of London) General Hospital Officers whose services will be available on mobilisation Captain James Calvert to be Major (dated Feb 20th, 1909), and Captain William McAdam Eccles to be Major (dated March 13th, 1909)

1st Northern General Hospital The undermentioned to be officers whose services will be available on mobilisation (dated March 30th, 1909) To be Lieutenant Colonels David Drummond, Sir Thomas Oliver, George Walter Ridley and Albert Morton Martin To be Majors Henry Brunton Angus, Thomas Beattie, William Errington Hume, William George Richardson, William Drewett Arnison, John Dobson Wardale, and Robert Patton Ranken Lyle To be Captains Joseph William Leech, George Grey Turner, Horsley Drummond, Alfred Parkin George Hall, Thomas Moffatt Allison, Joseph Collingwood Stewart William Edward Moore Ede, Samuel Short Whillis Daniel Wells Patterson, Thomas Gowans Herbert James Slade Henry Herbert Markham William John Phillips William Seymour

For attachment to Units other than Medical Units —Frank John Hathaway (late Lieutenant, United Services College Cadet Corps) to be Lieutenant with precedence as from April 8th, 1907 (dated July 15th 1908)

VOLUNTEERS

Cadet Corps United Services College, Windsor Lieutenant Frank J Hathaway resigns his commission (dated July 15th, 1908)

THE GERMAN ARMY MEDICAL COLLEGE

The current issue of the *Broad Arrow* contains a brief but interesting note on the German Army Medical College, the senior course of which is not quite similar to our own "The course at the Kaiser Wilhelms Institut," says our contemporary, "is in reality that of a cadet school like the French school at Lyons The Germans have no 'Applikations Schule' like the 'Val de Grace' or the school at Vienna, so that there is no actual equivalent of our Royal Army Medical Corps The junior Stabsärzte and the senior subaltern medical officers must go through a post graduate course called the Fortbildungscursus or operations course They are placed on command by the War Office for this The course consists of attendance at the clinics of universities and larger hospitals Lieutenant Colonel W. S Macpherson, R.A M C, attached to the department of the Chief of the General Staff, in a note to his hand book says that recently the higher administrative officers have also been made to attend the operations course at the Kaiser Wilhelms Akademie He also states that recently an institute for post graduate study, the Kaiserin Augusta Haus, was opened in Berlin, and army medical officers may go through a post graduate course (three months) there Apart from this, scientific libraries for the education of army surgeons are established (usually) in head quarters garrison hospitals of army corps In the summer staff rides are organised, and in the winter months medical officers on the active staff are obliged to write essays on some special scientific work, the subject being set by the Director General Special facilities are given for post graduate study and war games also form a part of the educational studies of the medical officers

Correspondence.

"Audi alteram partem"

THE MEDICAL TREATMENT OF LONDON SCHOOL CHILDREN

To the Editor of THE LANCET

SIR —Notwithstanding the letters appearing in your columns and your own remarks thereon, I have been surprised, in conversation and discussion with many members of our profession, to find how few are alive to the important —I would say momentous—issues which must of necessity be involved when putting into practice the Act of Parliament which gives the London County Council the right to procure medical aid for children educated in their schools For the moment the London County Council are not of one mind They are possibly embarrassed at the magnitude and delicacy of the task before them But whatever may be the decision of the Council, it behoves the whole profession to be on its guard and to watch the approach of what may prove to be of prime importance to every member of every branch of medicine and surgery

Should the Council by means of alluring offers of subsidy, seduce the managing committee of any hospital to treat their afflicted children, it must follow that both you and I contribute through our rates to supply this subsidy The unfortunate assistant physician or surgeon will have to submit to a double tax he will have to meet, in addition to his rates, a demand for extra time which he will be compelled to devote to the out patient department

Should our hospital authorities place themselves at the mercy of the London County Council in accepting payment, they must not be surprised at strict supervision—may be, interference—at the hands of those who will naturally wish to know how their patients are being cared for Much more might be said I prefer for the moment to press the main question, which appears to me to be of such importance that [illegible] eventually taken should be a concerted one and not [illegible] hospital board

Green street Park lane

DONALD W C HOOD

To the Editor of THE LANCET

SIR —The Education (Administrative Provisions) Act of 1907 authorises the local education authority, with the consent of the Central Government, to establish and maintain at the cost of the rates school hospitals with both in and out patient departments and country branches [1] I submit that in the interest of the patients this should be done, to establish only out patient departments for eye and ear cases is, owing to the inadequate support given to voluntary hospitals to lose a certain proportion of the chronic bone and other cases which under early and continuous treatment might be saved

Of the children of school age 86 per cent are in public elementary schools, 10 per cent in Poor law schools orphanages or ill and only 4 per cent are being educated at the cost of their parents, thus if school hospitals are established about 95 per cent of the children will be treated in them and only 5 per cent left to the open competition of the profession This would be a great, but, as I think, necessary evil, in order to minimise it as far as possible the following steps should be taken —1 The appointments should be made not by a subcommittee of the education committee, but by an electoral board on which the medical profession is represented. 2. No applicant should be prejudiced in his candidature because he does not intend to confine his private practice to the specialty of the appointment, or because he proposes to accept less than guinea fees. 3. That any qualified practitioner in the district may, under suitable safeguards, avail himself of the advantages of the clinical and pathological laboratories of the school hospital, both for the diagnosis and treatment of any school child he may have as a patient and for the purposes of research. In this connexion it must be remembered that the advances of medicine tend to make the investigation and treatment of disease more elaborate and the apparatus more costly; it is one thing to buy a stethoscope, another an x ray outfit. 4. That medical certificates given by an unattached practitioner should carry equal weight with one by an official, any difference of opinion that may arise being referred to an independent expert.

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[1] THE LANCET Nov [illegible] 1907

I am, Sir, yours faithfully,

May 31st, 1909. J. S.

A PLEA FOR THE USE OF ANTI-DIPHTHERITIC SERUM.

To the Editor of THE LANCET.

SIR,—I read with much interest the paper by Dr. A. A. Warden in THE LANCET of May 15th on the use of antidiphtheritic serum in laryngitis, the sequence of measles, but I gather therefrom that when the serum was used diphtheria in reality existed. That this serum has a wider field of application than for the treatment of pure diphtheria.I am quite convinced, and I first arrived at this conclusion entirely through accidental circumstances. I now nearly always resort to it in cases of quinsy or bad scarlet fever throats in preference to the polyvalent serum.

I quote briefly the outline of four cases. I saw C. D. on Nov. 5th, 1906, at 9 A.M., with quinsy, soft palate very red and œdematous, with a patch of membrane on left tonsil He had been using hot inhalations of Friar's balsam but could not swallow. At 10.30 A M. I injected 4000 B.U., and at 10 P.M., when I again visited him, he could swallow easily; a swab was taken, with negative results; the case ran an ordinary course but the quinsy aborted. Mrs. X. was seen on Jan. 6th, 1907. She had quinsy. I injected per rectum 4000 B U., and 2000 B.U. the next day. In five days the quinsy had quite disappeared (aborted). This lady informed me that she had had three or four quinsies each year for the two previous years; she has had none since she was injected. A. and B., aged four and six years, sisters, were admitted into the infectious hospital with scarlet fever; rash was profuse on each, and bad throats. but B.'s looked suspiciously like diphtheria as well. I injected 4000 B.U. under scapula; swab was taken with negative result. B.'s throat was well in four days with no other treatment. A.'s throat was no better even on the ninth day, although treated with chlorine. E, aged 15 years, was seen on August 28th, 1908, with quinsy; she had had follicular tonsillitis five days. At 5 30 P M. I injected 4000 B.U. per rectum. In two days she was convalescent, the quinsy aborted, and two days after she was well and went to Cromer. I could quote two other cases of scarlatinal quinsy with like results. These are interesting facts and I am sure will prove worthy of consideration.

I am, Sir, yours faithfully,

FRANK ARGLES,

Medical Officer of Health to the Wanstead Urban
District Council and Fever Hospital.

Wanstead, N.E., May 27th, 1909.

THE EARLY RECOGNITION OF UTERINE CANCER.

To the Editor of THE LANCET.

SIR,—The recommendations of the Council of the British Medical Association, in regard to the early recognition of uterine cancer, which appeared in THE LANCET of May 15th, p. 1409, admirable in themselves as a form of post-graduate instruction for medical men and nurses, do not go to the root of the matter.

In cancer of the uterus, as in cancer of other parts of the body, the real difficulty is the bringing of the patient to the medical man while the disease is in an early stage and curable by operation. This bringing of the patient to the medical man cannot be effected by increasing the diagnostic powers of the latter, and increase of knowledge on the part of nurses can assist but slightly. It is the patients themselves who must be instructed in the importance of the elementary signs and symptoms of early cancer. The laity must be instructed by those who have the necessary knowledge. The possessors of this knowledge are the members of the medical profession, who must act as instructors. The contention that such instruction of the laity will generate a morbid fear of cancer is not a valid objection. Widespread "cancerophobia" has long been in existence, but in their present state of ignorance patients nearly always centre their fears on an affection because it is painful and which, consequently, is usually either not cancerous, or, if cancerous, cancer in an advanced and inoperable stage.

In its present form this existing dread of cancer hinders rather than assists in bringing the patient to the medical man while the disease is still curable. Instruction of the laity can hardly increase the existing dread of cancer, while it may be expected to transfer the fears of patients from the painful non-cancerous to the painless cancerous affections, which in many cases will be promptly brought to the notice of the medical man. For some years this instruction of the laity has been in force in portions of Europe and the United States of America, and the sooner a similar system is introduced into the British Isles the better for all concerned.

I am, Sir, yours faithfully,

Plymouth, May 23rd, 1909. C. HAMILTON WHITEFORD.

FERGUSSON *v.* MALVERN URBAN DISTRICT COUNCIL: APPEAL OF PLAINTIFF BEFORE HOUSE OF LORDS.

To the Editor of THE LANCET.

SIR,—I think it is desirable to prevent any misconception of the true state of facts that may arise from reading the letter of Dr. J. N. F. Fergusson which appeared in your issue of May 29th.

In the first place, I would point out that the Lord Chancellor distinctly said, "I must add that I think in this case that the decision of the Court of Law is strictly in accordance with justice between the parties." And the President of the Court of Appeal at the end of his judgment, which has been upheld by the House of Lords, said: "Just to sum this matter up. Here the plaintiff was not drawing the water by the pipes in question from his own land, he had by the findings no right whatever to draw this water from the defendants' land, he was in truth and in fact using it without any right to do so and without knowledge on the part of the defendants that he was doing so." The polluted water was a private supply and at the time leased to the Malvern council, and it has since been cut off from Dr. Fergusson's establishment by the owners. It is only right to add that this water was entirely apart from the town supply, and before it was diverted ran into the storm-water drains.

I am, Sir, yours faithfully,

FRANCIS WM. JOSHUA, L.R.C.P., L.R.C.S. Edin.

Great Malvern, May 31st, 1909.

FAVUS AND RINGWORM AMONG SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—In your columns recently a correspondent, writing over the signature M.D., sought information as to the treatment given in the London County Council's favus school, and inquires why that treatment cannot be given in cases of ringworm among children attending the Council's schools instead of the x ray treatment recommended by the committee. If your correspondent will refer to page 38 of the report of the London County Council medical officer (education) for the 21 months ended Dec. 31st last he will find full details of the treatment given in the favus school, which appears to consist of a combination of x ray treatment and the local application of a solution of cyllin.

I am, Sir, yours faithfully,

F.R C S.

May 27th, 1909.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

University of Bristol.

THE actual Charter arrived in Bristol last week, the King's seal having been affixed on May 24th. On Sunday, May 30th, reference was made to the foundation of the University from many pulpits. The total subscriptions to the University fund amounted to about £203,500, and the value of the existing buildings, &c., is estimated at about £55,000. The Blind Asylum premises and grounds are to pass into the University's possession for a sum of £27,500, and it is probable that some of the space thus provided will shortly be utilised for a new science wing to house the departments of chemistry and physiology. This will adjoin the existing premises. The purchase is one which adds not merely an excellent frontage but also a very considerable area of ground to the University. The Bill authorising a transfer of the property and liabilities of University College to the University of Bristol has been read a third time in the House of Lords. It is expected that the Lord Mayor will shortly be asked to convene a citizens' meeting for the purpose of raising a fund to supply the University with a permanent income of from £2000 to £3000 per annum. It is reckoned that it will need at least £28,000 a year; and the present available income amounts to about £26,000 only. The War Office has sanctioned the formation of an Officers' Training Corps in connexion with the University. This cannot, however, be started before October, but meanwhile names of students who wish to join are being collected. —The foundation of a chair of economic biology was under discussion at the annual meeting of the National Fruit and Cider Institute, in connexion with which the University College Department of Economic Biology has been making researches into cider growing.

Medical Inspection of School Children.

The education committee of the Bristol city council has issued its first report on the medical examination of school children, covering the last four months of 1908. Inspection is carried out by five part-time medical officers, to each of whom a section of the city is allotted. These officers occupied their first month (September, 1908) in a general inquiry into the under-feeding of school children, and issued a report on the strength of which the committee evolved a scheme of free meals for those who needed them. Routine inspection began in 1908, each officer visiting the schools in his district one by one on days appointed. The value of the work, which was carried out in each case in a room set apart for the purpose, was greatly enhanced by the presence of the head teachers of departments, whose personal knowledge of the children proved very helpful. In the three months (October to December) 3081 children were examined, and parents were advised to get treatment for their children in 1213 cases. Of these, 68 were notified unfit for school, 387 needed general medical treatment, 59 were suffering from neglect, 29 had contagious skin diseases, 331 had dirty heads, 206 were suffering from eye diseases and defects, and 241 from bad teeth. The inspection of each

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The Bristol Lunatic Asylum.

Dr. J. V. Blachford, medical superintendent of the Bristol City Asylum, reports the admission of 247 patients in 1908, 103 men and 144 women. 40 of these were boarders from the Essex County Asylum. During the year 84 patients were discharged as recovered and 140 died; in 123 of these a post-mortem examination was made. The average number of patients in residence per day was 928. The asylum farm and garden have provided all the vegetables required throughout the year, and there has been a plentiful supply of plants and flowers for indoor decoration from the greenhouse. New wards for male patients have been opened.

What is Successful Revaccination?

At a meeting of the Chipping Sodbury (Gloucestershire) board of guardians held recently a letter was read from the Local Government Board stating that one of the public vaccinators had complained of the guardians not having paid him for ten cases of revaccination which he had performed. He had marked the cases in his vaccination register as "four groups abortive." The public vaccinator asked the Local Government Board to define successful revaccination and contended that the ten cases had been successfully revaccinated, as they conformed to the type laid down by the Privy Council—viz., "no outer vesicles but merely papular elevations surrounded by areolæ." The clerk to the guardians said he had disallowed the fees owing to the words "abortive," which he considered was unsuccessful, but eventually it was decided that the fees should be paid.

Royal Institution of Cornwall.

At a meeting of the Royal Institution of Cornwall, held at Truro on May 25th, it was stated that the Prince of Wales had given 200 guineas to the fund for a new county museum building at Truro. His Royal Highness directed "that the donation should be made in memory of Sir Humphry Davy and Richard Trevithick, two great Cornishmen, who commenced their careers with few advantages, and left names which can never be forgotten."

The Handel Cossham Memorial Hospital, Kingswood.

A semi-official explanation of the circumstances which led to the closure of this hospital has appeared in the local papers. The estate, the proceeds of which have been spent on the hospital, is still in Chancery, and this has hampered the board of management to some extent. Unfortunately, also, there was a considerable difference between the estimated and the actual amounts required for the initial expenditure as well as for the annual upkeep, and the consequence is that many expenses were incurred which might have been avoided or at least diminished. In order to deal with this situation a partial closure of the hospital was decided upon, but this decision has been extended to a general closure, because the small-pox outbreak which occurred there recently has rendered a thorough disinfection necessary. Pending the decision of the Court of Chancery, therefore, the work of the hospital is suspended.

June 1st.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

ARRANGEMENTS for the visit of the King and Queen to the new buildings of the University are being developed as rapidly as possible and it is understood that a general plan has been formed, but the many important details upon which success must rest are yet under consideration. The general public, and especially those interested in the University, are anxious to know as soon as may be what the arrangements will be, but a little time must necessarily elapse before everything can be finally decided upon, and the University authorities will no doubt furnish full information at the earliest possible moment.

The Ingleby Lecture.

Sir Thomas Barlow delivered the first part of the Ingleby lecture for 1909 on May 27th in the medical theatre. He dealt in elaborate detail with the main features of Raynaud's disease and erythromelalgia, contrasting them and arriving at the conclusion that they are not the same disease in different forms.

The Meeting of the British Dental Association.

The medical part of the University was largely in the hands of the British Dental Association during the end of last week and the early part of the present week. This is the second time that the meeting has been held in Birmingham and on the last as on the first occasion it was extremely successful. Naturally most of the papers and discussions have been more or less interesting to medical men, but the discussion which most nearly touched the interests of the medical profession was that upon the General Anæsthetics Bill, which ended in a resolution, the association protesting "in a most emphatic manner against any legislation which would make it illegal for registered dentists to administer anæsthetics for dental operations."

Medical Inspection in Worcestershire.

"A recent meeting of the Worcestershire education com-
subcommittee, which recom-
salaries of the two assistant
medical officers and the appointment of an additional officer,

received a very unfavourable reception from some of the members of the committee. It can scarcely be contended that the salaries at present paid, £175 per year to each assistant, are sufficient, or that the suggested increase, to £225 rising to £250, is too much to pay for properly organised and properly carried out work. There is no doubt, however, that many people are beginning to wonder what the medical inspection scheme is going to lead to and how the expense is to be met, whilst in the particular instance under consideration some of the members of the committee were no doubt irritated by what must have seemed to them the strangely contradictory reports of the medical inspectors concerning the prevalence of pulmonary tuberculosis; one inspector reporting under the head of phthisis 0·8 per cent of defective children, and another 15·5 per cent., whilst no proof was furnished that either the lower or the higher estimate was correct. The desirability of recognising early stages of pulmonary tuberculosis is undoubted but the advisability of publishing unverified conclusions is doubtful.

Educational Standards and Inborn Incapacity.

At the last meeting of the Birmingham education committee an interesting discussion took place, originating in association with the statement that 25·7 per cent. of the children did not attain Standard VI. before leaving school, and with Mr. Cary Gilson's suggestion that it would be wise to provide a curriculum more suited to the requirements of the children who were not likely to reach the sixth standard. The suggestion was strongly objected to on the grounds that the children were not incapable of attaining the standard before the leaving age, but were prevented from attaining it by lack of proper school accommodation, migration of parents, sickness, and by the fact that many of them had to work before going to school and were too tired to learn. All these causes may be at work, and if carefully inquired into might serve to reduce the somewhat large percentage of those who seem to be incapable of attaining the much worshipped Standard VI., but the fact remains that many children, who cannot be classed as feeble-minded, are not capable of attaining the standard in the usual period. Many of our legislators apparently will not believe in the inborn incapability of some children. They are quick to recognise with regard to animals, and with regard to the men and women whom they utilise for business purposes, that some are more and some less capable, but when they have to deal with children they appear to think that every child is born with equal potentialities and is capable of being crammed with knowledge up to Standard VI. in a given time. It is a pity that many of those who occupy public positions with regard to education cannot be made to go through a well arranged course of study in biology. It might dispel some of their cherished ideas of natural equality under equal external conditions and induce them to cease, not only spending the people's money in trying to force the incapable to a height they cannot attain, but also to cease retarding the development of the better types by squandering what should be devoted to them upon the incapables. If medical men who know the truth would more frequently point out to the general public with whom they come in contact the fact that we are not born equally capable, and that it is the capable and not the incapable who should be fostered if the nation is to become stronger, the public might gradually be educated to recognise the folly of squandering its strength for the sake of maintaining and propagating weaklings, which seems to be the main object of many of the present-day sociologists.

The Birmingham Medical Benevolent Society.

At the annual meeting of the Birmingham Medical Benevolent Society Dr. Malet, the retiring President, was replaced by Sir Thomas Chavasse, and Dr. Simon was appointed President-elect. The directors reported that the funds of the society amounted to £16,060 14*s.* 6*d.*, of which £15,940 4*s.* 11*d.* were invested. During the past year two annuitants died and one was added to the list, the number being thus reduced to 25, and the total number of members at the end of the year was 390. This is a very small number out of a total of 4000 eligible medical men in the area covered by the society, and it is obvious either that the objects of the society or the means of attaining them do not appeal to the majority of medical men, or are not effectively brought to their notice. In a motion proposed by Dr. Thomas Wilson it was decided to admit lady practitioners to membership of the society.

The Monyhull Colony.

The Monyhull Colony for Epileptics and Feeble-minded was founded about 13 months ago with the object of furnishing the most favourable conditions for the epileptics and feeble-minded in the parishes of Birmingham, Aston, and King's Norton. It has not been long enough in existence to provide any very certain data with regard either to the cause of epilepsy or the most successful method of treating epileptics and the feeble-minded; therefore it is not surprising that the first annual report of the medical officer contains little but a record of the general improvement of the physical condition of the patients. It has been stated that the number of epileptic fits can be reduced by a "no salt" diet, and with the object of testing the statement 12 men and seven women have been placed upon such a diet, but Dr. B. F. Jordan, the visiting medical officer, is of the opinion that the experiment has not been continued long enough to justify the formation of a definite conclusion. It was noted, however, that some of the patients placed on the "no salt" diet developed a temporary dulness of manner. Dr. Jordan states that manual work, in the cases of the able-bodied patients, tends to reduce the number of fits, and he notes a marked tendency amongst the epileptics to sudden attacks of long-continued physical weakness appearing without adequate cause.

June 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Scottish Dinner of the Indian Medical Service.

THE fourth annual Scottish dinner of the Indian Medical Service was held in the Caledonian United Service Club, Edinburgh, on the evening of May 28th, under the presidency of Sir Alexander Christison, Bart., the oldest member of the service present. Sir Alexander Christison, it may be stated, not only served through the Mutiny, but was also attached to a field hospital during the first Burmese war, and was then associated with the late Sir Joseph Fayrer. The other members of the service who attended the dinner were: Surgeon-General G. Bidie, C.I.E., Surgeon-Major-General P. S. Turnbull, K.H.S., Surgeon-General D. Sinclair, C.S.I., and Surgeon-General G. W. R. Hay; Colonel A. Stephen and Colonel W. P. Warburton, C.S.I.; Brigade-Surgeon-Lieutenant-Colonel J. Arnott, Brigade-Surgeon-Lieutenant-Colonel G. G. McLaren, and Brigade-Surgeon Robb; Lieutenant-Colonel Downie, Lieutenant-Colonel W. B. Bannerman, Lieutenant-Colonel G. J. H. Bell, Lieutenant-Colonel Smith, and Lieutenant-Colonel Lamont; Major C. J. Robertson-Milne; Captain Harvey, Captain G. H. Stewart, Captain Husband, Captain Masson, Captain Roberts, Captain Macrae, Captain Morison, Captain Kirkwood, and Captain Tarr. Apologies for inability to attend were received from Surgeon-General W. Watson, Surgeon-General Pinkerton, Lieutenant-Colonel F. Wyville Thomson, and Captain Fleming. The guests present were Sir J. Halliday Croom, Dr. W. Allan Jamieson, Mr. J. M. Cotterill, Colonel Corker, R.A.M.C., Dr. P. McBride, Dr. F. W. N. Haultain, and Lieutenant Turnbull of the 23rd Pioneers. A most delightful evening was spent, and brother officers who had not seen each other for many years—in one instance no fewer than 41—enjoyed the pleasure of meeting again and recounting the incidents of the intervals. After the usual loyal toasts had been honoured, Sir Alexander Christison, in a speech of great feeling, proposed the continuous prosperity of the Indian Medical Service. He alluded particularly to the recent death of Assistant-Surgeon W. W. Ireland, I.M.S., whose presence at the dinner in the previous year when he detailed the pathetic story of his all too brief career in the Service, will never be forgotten by those who were present. Dr. Ireland had actually signified his intention of being present on this occasion, and the speaker suggested that on behalf of the officers attending the dinner he should write to the family of the late Dr. Ireland expressing sympathy with them in their sudden bereavement. Then, after referring suitably to recent changes in the service he concluded by expressing the great pleasure he had experienced that evening in meeting so many of the younger members of the service. Other toasts followed. Surgeon-General Sinclair proposed that of the "Royal Army Medical Corps," with which the Indian service is so closely associated in India, and Colonel Corker in acknowledging the toast referred to the many kindnesses he had received from officers of the Indian Service during the earlier years of his own career. Surgeon-General Hay proposed the "Royal Colleges of Physicians and Surgeons," to which the Presidents, Dr. Jamieson and Mr. Cotterill, replied in suitable terms, the latter alluding particularly to the revised standard of the Fellowship and its utility to members of the Service. Colonel Warburton, in conclusion, proposed the health of the Chairman, which was drunk with acclamation, as was that of Brigade-Surgeon-Lieutenant-Colonel Arnott, who had organised the dinner.

The Association for the Registration of Nurses in Scotland.

The executive committee of the Association for the Registration of Nurses in Scotland, at a meeting held in Edinburgh recently, passed a resolution expressing its satisfaction that the Prime Minister was unable to assent to the proposals of the deputation which waited on him on May 13th. This association (which represents, with a few exceptions, the opinion of the medical and nursing profession in Scotland) trusts that it will be afforded an opportunity of placing its views before any committee of the House of Commons that may be appointed to deal with this important subject. Although the association objects to both of the two Registration Bills already proposed the Scottish committee sees no reason why a Bill for the Registration of Nurses should not be introduced which would be satisfactory to England, Scotland, and Ireland, arranging [illegible] country, just as is done under the Medical Act (1858) and its [illegible] The views held by this asso[illegible] the recommendations of the [illegible] ted to Parliament in 1905 on the question of State Registration of Nurses. The executive committee instructed the honorary secretary to convey this resolution to the Prime Minister.

Forfarshire School Medical Officer.

At a [illegible] county [illegible] appoint[illegible] Forfarsh[illegible] examination and supervision of school children in the county (excluding Dundee) under the Education Act (Scotland), 1908, was discussed. A memorandum as to the proposal by the Secondary Education Committee of Forfarshire set forth that this committee had resolved that the area of the com[illegible] that, provided the county council agreed to pay one half of [illegible] such expenses; and (2) that the salary of the school medical officer should be £200 per annum, free of all expenses. After discussion it was unanimously agreed that permission be granted to the Secondary Education Committee to appoint the *county medical officer as* school medical *officer on condition* that the proposed scheme be submitted to, and approved by, the public health committee, as enlarged to include the whole county council, and, further, that an allowance of £50 per annum be granted to the county medical officer, out of which the county medical officer shall meet all expenses in connexion with his work as county medical officer, and that he shall give up all right to consulting practice, the whole matter to be subject to the approval of the Local Government Board.

Peterhead Doctor's Action.

In the Aberdeen small debt court on May 27th Sheriff Laing decided on a case of considerable importance to the medical profession. Some time ago some workmen engaged at Peterhead in breaking up a wreck met with some accidents. They were in the employment of Mr. Baird, Aberdeen, and on the accidents happening the foreman called in Dr. Gillespie, giving Mr. Baird's name. The injuries being very serious the medical attendance was long, and on the account being rendered to Mr. Baird payment was refused on the ground that he had not employed any medical man and that the foreman had not his authority for doing so. Proof was led at length, and the Sheriff in giving judgment said: "It is common ground that defender would be liable for this doctor's account if he instructed him either expressly or by implication. There is no suggestion that the master instructed the doctor. The case for the pursuer is that he undertook liability by implication. I hold that the pursuer has proved an implied undertaking. Each of the employees, it is of interest to note, was taken to the same doctor by the same men and it is proved to my satisfaction that they said defender would see to the payment of doctors' charges. Even this, however, would not be sufficient, but I must hold it proved that the foreman reported the accidents immediately, and the fact that Dr. Gillespie had been called in to the defender, who did nothing to repudiate liability then. Not only so, but when he met the doctor some little time after he said nothing then as to non-payment. This is, I think, sufficient to infer adoption of Dr. Gillespie's employment and sufficient for the decision of the case in pursuer's favour."

Care of Consumptives: Proposed New Dundee Municipal Venture.

The subject of the care of consumptives by the municipality was introduced in a new form at a meeting of the public health committee on May 25th. It had been agreed that certain cases should be sent to the sanatorium at the expense of the municipality, but this scheme was dead and the question now was, What was to be done? The alternative to doing nothing was to take up a lesser scheme It was then moved and seconded that a subcommittee be appointed to report. The suggestion that this motion and two others dealing with compulsory notification of tuberculosis and an isolation block or hospital for advanced cases be sent to the same committee found no support.

June 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Irish Primary Schools.

A DEPUTATION from the Women's National Health Association of Ireland waited on the Chief Secretary for Ireland at Dublin Castle on May 24th. The Countess of Aberdeen, in speaking on behalf of the mothers of Ireland, said they desired to urge upon the Government the necessity for provision for heating, cleaning, ventilating, and general sanitation of the primary school buildings in Ireland. The present lack of such provision constituted a grave danger to the health of the children. Several ladies *having spoken, Mr. Birrell admitted at once that the state of* too many of the schools was very bad. There was no educational rate in Ireland, and although the National Board of Education in Ireland year after year asked for a sum of £40,000 to provide proper school accommodation for Irish children, the Treasury refused on the ground that it was an unreasonable demand, as there being no school-rate in Ireland, the least the people could do was to see that the schools were in a proper condition to receive the children. Mr. Birrell said he would *never assent to compelling* parents to send their children to school in the unsatisfactory condition in which so many of the schools are. At present there was a Bill before Parliament to halve this cost of £40,000 and to provide that if the local authority levies the rate sufficient to meet half the expense the Treasury should pay the other half. Now, provided the people of Ireland unitedly supported the Bill before Parliament referred to by him and brought pressure on the managers of *schools to raise half the sum,* Mr. Birrell said he hoped to be able to overcome the objection of the Treasury, but otherwise he said they would hear no more of the Bill. Mr. Birrell said he had seen

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Infectious Diseases at the Sites of the Recent Massacres.

FROM different parts of Asia Minor where the recent terrible massacres took place comes the alarming news of the outbreak and spread of different infectious diseases amongst the destitute victims. Information received from Erzerum and other provinces of Armenia gives a very sad picture of the present state of affairs, and according to the *Levant Herald*, with summer coming the problem in Adana is appalling. The refugees are for the most part gathered in camps outside the city, but there are 32 sections in the encampment, measles and other contagious diseases being strictly segregated. This arduous task has been accomplished by Commander Carver, H.M.S. *Swiftsure*, and the Rev. Stephen Van R. Trowbridge of Aintab. As rapidly as possible tents are being constructed and blankets and bedding distributed. Supplies are coming in slowly, however, and there are 20,000 people in the big camp. Fresh cases of wounds are brought in continually from the villages, most of them being in a state of hopeless gangrene. There is great and urgent need of more surgeons and nurses. Beirut, Aintab, Marash, and Smyrna have sent help to supply this need, but with so many to look after, unless a larger skilled staff is forthcoming, numbers are bound to perish from the physical impossibility of receiving attention from the present workers. Measles has proved as deadly as small-pox, for the children being in the open air and largely without bedding have contracted pneumonia and have died by the score. Almost all babies born since the massacres started are dead. Dysentery is rife throughout the camp. The central authorities in Constantinople, as well as the Armenian Committee and other charitable organisations, have sent money and medical help, but this does not seem sufficient to meet the urgent necessities of the case. Help is also coming from the United States.

The Sultan Visits the Wounded in the Hospitals.

The new Padishah has given another proof of his sympathetic care for his subjects. On May 24th he paid a visit to the extensive children's hospital of Shishli, where a large number of wounded officers and men are being treated. The Sultan was accompanied by the Commander-in-Chief, General Mahmoud Shevket Pasha, the liberator of the metropolis, and was received by the director of the hospital, Dr. Ibrahim Pasha, and the chief medical officer, Haireddin Bey. Six wounded officers were each presented with a gold watch by the Sultan, and 60 soldiers each with a silver one. He visited every section of the hospital and spoke kind words of praise and encouragement and eulogy to the wounded. The Sultan remained among the wounded for about an hour. He visited also other hospitals and was everywhere cheered enthusiastically by crowds of patriotic people.

The Municipal Health Service.

The following salaries have been fixed for the medical officers of the municipal service: 3000 piastres per month (£1 equals 120 piastres) for the chief of the sanitary staff; 2000 for the next in rank; 2000 for the director of the service of disinfection, and 2000 for each chemist and bacteriologist. The minor officers will receive 500 piastres. The General Council of the municipality of the city has decided to contract a loan of 1,000,000 Turkish liras to be used for the embellishment of the metropolis.

May 28th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Plague.

THE plague returns for the week ending April 24th show 4007 deaths, compared with 4594 in the week preceding. Bombay Presidency reports 762, Bengal 215, the United Provinces 501, the Punjab 2165, Burma 99, the Central Provinces 58, and Rajputana 177.

Cholera at Ujjain.

The city of Ujjain and the adjacent *mela* camps have bee centres of cholera in epidemic form recently, from 10 to 1 cases having been registered daily. The mortality during th weeks ending April 24th has, however, been steadily on th decrease, and there have been no further attacks sinc then. It may therefore be hoped that the disease is prac tically stamped out. This is due to the energy displayed b Captain Koksingh Subha Sahib of Malwa, who deserve special praise, with the hearty coöperation of the medica staff and police, the latter ably controlled by Mr. Phatak the district medical officer.

Tuberculous Disease in Calcutta.

The *Indian Medical Gazette*, summing up a series o papers read at the Medical Section of the Asiatic Society of Bengal, arrives at some very remarkable conclusions with reference to the prevalence of tuberculous disease i Calcutta. Lieutenant-Colonel G. F. A. Harris, I.M.S, reports that one-tenth of all the cases admitted to the General Hospital during the two years of his residence had been tuberculous. Major Leonard Rogers, I.M.S, in an analysis of post-mortem records, proves that 25 per cent. of all the bodies examined show traces of tuberculous disease, while in 17 per cent. it is the actual cause of death. Colonel H. W. Pilgrim, I.M.S., also bears testimony to the extremely common occurrence of tuberculous lesions, and considers that the origin and spread of the disease are largely due to preventable causes. Thus tubercle is a greater danger to life in this part of India than any of the purely tropical diseases. There is also practical unanimity among the medical profession in India that properly equipped sanatoriums furnish the only efficient means of treatment, but there is a good deal of difference of opinion regarding the most suitable site. The civil surgeon of Darjeeling reports against that station: living is too dear, and phthisis is very prevalent amongst the resident population, who are much over-crowded during the season. He thinks Kalimpong would be more suitable. The civil surgeon of Hazaribagh and the Rev. Dr. J. G. F. Hearn, a medical missionary there, give that place a qualified recommendation. The station, however, is difficult of access, and Indians find the cold nights in December and January very trying. Dr. Hearn suggests Puri. No explanation is offered of the fact that while Europeans and Hindus suffer in an equal degree, the liability is decidedly the greatest amongst the Mahomedans.

New Small-pox Hospital for Simla.

The new small-pox hospital for native patients, on the spur below the Mahomedan cemetery at Boileaugunge, is nearly completed, and it might be well for the municipality to consider whether a hospital of this kind should not be devoted to infectious cases generally and not be reserved merely for one specific disease. Small-pox appears in Simla spasmodically and at irregular intervals, and when it is non-existent the hospital lies empty and useless. It must be admitted that cases of small-pox and other infectious diseases cannot very well be treated in the same building, but this difficulty might be overcome by the erection in the vicinity of the new hospital of corrugated iron huts which are easily disinfected. These would accommodate small-pox patients, leaving the main building for infectious cases generally. The old hospital close to the Church of England cemetery will shortly be demolished, and an unpleasant feature will thus be removed from what should be an open locality. The dismantling of the building should be carried out during the rains, when the danger from dust-infection can be practically eliminated. There is happily no chance just at present of an epidemic of small-pox in Simla. It was feared that, with the move of the Government offices from Calcutta, infection might be carried into the summer capital, but only three cases have been detected during April. Every precaution was taken by the municipal committee, and the inspection of railway passengers at Tara Devi station is still a very close one. There are, of course, a number of persons who come by road, but these are mostly from the Punjab, in which province the only epidemic disease at present is plague. The bazaar population of Simla is closely watched over by the medical officers of health, and any outbreak of small-pox would be at once known. Visitors therefore need not be under any apprehension that the disease is likely to be prevalent there this summer.

May 8th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Vital Statistics.

THE estimated population of New South Wales at the end of 1908 was 1,605,000. This shows an increase of 31,785 during the year, and of these 26,345 were due to an excess of births over deaths during the period. The number of marriages was 12,642, equal to 7·96 per 1000, which is the highest rate for 21 years. The births totalled 42,525, equal to 26 77 per 1000 of population, and were in the proportion of 104 males to 100 females [illegible] registered, equal to a rate of [illegible] numbered 16,090, equal to [illegible] cent. below the mean of t[illegible] mortality figure works out at 76 per 1000 births for the whole State.

Socialistic Ideas.

At the annual conference of the Victorian Political Labour Council the following resolutions were agreed to:—

[illegible] such as hospitals and asylums.

Resolutions of this description may not have much immediate practical importance, but they show the trend of opinion amongst the advanced Labour party on matters that will one day affect the medical profession throughout Australia.

Melbourne Dust.

The reputation of Melbourne for dust is well maintained by the disinclination of the city council to approach the problem in a systematic manner. Mr. Hunt, the Commonwealth meteorologist, has made some observations with Dr. Aitken's "dust counter." The highest count in the city was 773,000 particles per cubic centimetre of air. Dust was much more prevalent in the early morning than at any other period of the day, a fact probably accounted for by the absence of water-carts and the early street cleaning operations. The suburban air was found to be ten times purer than that of the city at a distance of some four miles from the centre.

Meat and Milk Supervision.

Professor Gilruth, who has just been appointed to the new chair of Veterinary Science in the University of Melbourne, has been interviewed on the methods of handling meat and milk. He is of opinion that Victoria is ahead of New [illegible] duty being [illegible] He does not [illegible] its digesti- [illegible] pervision of meat is done by the Agricultural Department, which he considers preferable to the Victorian system, the latter being in the hands of the Board of Public Health. In New Zealand all towns of 2000 inhabitants are compelled to erect public abattoirs.

Plague in Australia.

The reappearance of plague in Sydney is causing grave anxiety to the public health officials. Dr. J. Ashburton Thompson, the President of the Board of Health, has addressed through the daily press an earnest appeal to householders and city firms to assist the Board in providing and maintaining rat-proof defences for all dwellings and places of business The plague-infected area continues slowly but surely to extend, though the Darling harbour frontage appears still to be the centre from which infection spreads. Since March 7th 17 cases have been reported, of which five were fatal. Three cases of plague have occurred in Adelaide, two of which were fatal.

Health Officers.

The Victorian branch of the British Medical Association has lately been considering the unsatisfactory position of municipal sanitation, particularly in country towns. The position of health officer to country municipalities is in few instances more than a nominal appointment. The health officer is offered a few pounds per annum and is expected to do as little as possible except when specially requested. The majority of medical men holding such positions feel that it is impossible to carry out the duties adequately, and an agitation for the appointment of whole-time health officers has been initiated by the Ballarat division of the association. After a good deal of discussion it has been resolved to request the Government to appoint six extra assistant medical officers to the Board of Public Health, who would devote their whole time to the office and be allotted to country districts in which they could assist the local health officers in carrying out the requisite supervision.

Queensland Public Health.

Dr. B. Burnett Ham has issued a report dealing with public health matters in Queensland for the year ending December, 1908. The birth rate was 26·87 per 1000 and the death-rate 10·35. Infant mortality rate was 77·2 per 1000 births, diarrhœa being disastrously responsible for deaths among infants. Plague reappeared for the ninth year in succession, the total number of cases between July, 1907, and December, 1908, being 31, of whom two died. The corrected death-rate from plague for white population was 61·5 per cent. On June 30th, 1908, 65 persons (of whom 16 were whites) remained under detention for leprosy. A number of experiments were conducted with anti-plague serum from the Lister Institute. Guinea-pigs were inoculated with virulent plague bacilli and injected either before, simultaneously, or after with varying quantities (4 to 20 cubic centimetres) of serum. The serum was shown to possess very decided protective and even curative properties.

Personal.

Dr. R. J. Bull, the director of the bacteriological laboratory of the Melbourne University, has left for a holiday trip to Europe in the P. and O. steamer *Marmora*. By the same steamer Dr. T. Garnet Leary also set out on a visit to the old country, and prior to his departure was the recipient of a presentation from the residents of Sandringham, a suburb in which he has practised for some years.

New Melbourne Hospital.

At the last committee meeting of the Melbourne Hospital the question was raised as to whether the new building should be planned to provide for 300 or 400 beds The estimated cost of a building to allow for 400 beds was £154,000. The chairman and others feared, not the constructional outlay, but the added maintenance, as it has been very difficult to make ends meet with the present number of beds, which is barely 300. The medical staff strongly urge the increased accommodation.

April 27th.

Obituary.

WILLIAM W. IRELAND, M.D. EDIN.

THE late Dr. W. W. Ireland, whose death occurred rather suddenly at Musselburgh on May 17th, was born in Edinburgh in 1832 and was educated at the High School and University there, graduating as M.D. in 1855. He was a lineal descendant of John Knox through Mrs. Welsh, the great Reformer's daughter. Having studied in Paris and served a[illegible] Infirmary he became surgeon [illegible] shortly afterwards was sen[illegible] formed one of the major o[illegible] the siege he saw Lord Roberts (then Lieutenant) wounded and attended him on that occasion, while he himself after seven months of being almost continuously under fire was severely wounded, losing an eye. The bullet passed from the left orbit under the base of the skull, while he was further wounded in the shoulder. After a couple of years' stay in the hills, during which time he was compiling material for his "Siege of Delhi," the severity of his wounds compelled him to retire from active service with a grant of a special pension. A further period of convalescence spent on the continent after leaving India was utilised in writing "Studies of a Wandering Observer" and a novel "Randolph Methyl," a story of Anglo-Indian life.

Having by this time become attracted to the mental department of medicine, Dr. Ireland on his return home was appointed medical superintendent of the Scottish National Institute for Imbeciles at Larbert, where he remained for ten years, and the outcome of his work there was the classic

"Ireland on Idiocy and Imbecility," which soon became the standard work on the subject, and which was afterwards expanded into "The Mental Affections of Children." By this time his devotion to the study of medico-psychological subjects had become fully established, his practical knowledge of French, German, Italian, Spanish, Norse, and Hindustani serving in good stead in translating matter for epitomes and reviews of current literature on mental subjects.

In 1880 Dr. Ireland started a private home for the treatment of cases of arrested mental development, first at Stirling and later at Prestonpans and Polton; he conducted these institutions with much success for a number of years. His last years were spent in nominal retirement at Musselburgh, but he still continued an active worker on the literary staff of the *Journal of Mental Science* and was a frequent contributor to THE LANCET and other medical papers and to the more thoughtful section of the general press. Dr. Ireland's most original work was the application of medico-psychological knowledge and studies in heredity to the explanation of the lives and conduct of many great men, and he has illustrated his theories in the case of Swedenborg, Caligula, Nero, and the Russian and other rulers in his "Blot on the Brain" and "Through the Ivory Gate." This important department of history and biography had been much neglected by historians, though it has since received some attention. Dr. Ireland was an ardent student of history, particularly of the times of the Commonwealth, as is illustrated in his "Life of Sir Henry Vane." In 1905 Dr. Ireland was the recipient of an illuminated address and other marks of appreciation, the function taking place in the hall of the Royal College of Physicians in Edinburgh, the President being in the chair, while Dr. T. S. Clouston in an appropriate speech made the presentation.

Dr. Ireland was a man of striking individuality. Tall, erect, of fine physical proportions, well-shaped head, and calm and kindly visage, his appearance commanded attention, and as a figure at the meetings of the various societies where he often spoke his personality will not soon be forgotten. He was an independent thinker on all the subjects he took up and was not easily moved when he had formed his conclusions, and was sceptical as to new views when not backed by what he considered proper proof. Without exaggeration one might say that his knowledge was encyclopædic, while his industry was immense. He was kindly and humorous, and few of his friends will forget his merry laugh, while it was his delight to help those of his brethren requiring literary aid. A list of Dr. Ireland's works forms quite a catalogue. He was a member of various societies in his specialty of mental disease and corresponding member of various foreign societies, and he also took an interest in local and political matters, being chairman of the Prestonpans branch of the Unionist Association for some years. Dr. Ireland is survived by his elder son, Dr. Thomas Ireland, recently retired from the West Indian Medical Service, and a daughter.

CHARLOTTE LOUISA ELLABY, M.D. PARIS, L.S.A.

Dr. Charlotte Louisa Ellaby, who died on May 14th at her house in Harley-street at the age of 55 years, was the youngest daughter of the late Rev. J. W. Ellaby of Woodstone, Peterborough. She graduated in medicine in Paris in 1884, embodying in her thesis the fruits of research work in ophthalmology undertaken while she was a student. In the autumn of that year, on the recommendation of Mrs. Garrett Anderson, M.D., she went out to Bombay to join Dr. Edith Pechey, first as physician at a temporary hospital and afterwards as second physician to the Cama Hospital, a Government hospital for women and children. Here Miss Ellaby worked most successfully, not only in the special eye department which she inaugurated, but also in a very large out-patient department and an increasing private practice. After some years' work in India, desiring to devote herself entirely to ophthalmology, she resigned her appointments and returned to England. She then passed the examination of the Society of Apothecaries (which had recently been reopened to women) in order to have a registrable British qualification.

In 1890 Miss Ellaby was invited by the committee of the New Hospital for Women to organise an eye department in connexion with the hospital, and was appointed its first ophthalmic surgeon. Here she worked happily and successfully until failing health, fought with the utmost courage, compelled her resignation three years ago. In the winter of 1894-95 Miss Ellaby returned to India for a few weeks, her services having been specially requisitioned to perform a double cataract operation upon the Rani of Jamnagar. The operations were successful, but it was partly to this visit to India that Miss Ellaby attributed her subsequent ill-health. At the time of her death she was consulting ophthalmic surgeon to the New Hospital for Women, lecturer on ophthalmic surgery to the London School of Medicine for Women, and was also a Member of the Faculty of Medicine of the University of London. Miss Ellaby had the true scientific spirit, although her literary contributions to scientific journals were few; they included papers on "L'Action de la Strychnine et du Courant Constant sur l'Œil Normal," and on a series of cases of Retinitis observed in the wards of the New Hospital and elsewhere.

CHARLES MARSHALL KEMPE, M.R.C.S. ENG., L.S.A.

THE death occurred at Shoreham, Sussex, on May 23rd of Mr. Charles Marshall Kempe, who in the summer of last year retired from practice and the position, among many others, of medical officer of health for the urban district of Shoreham, an office which he had held for no fewer than 35 years. Educated for the medical profession, Mr. Kempe took the diplomas of M.R.C.S. in 1861 and L.S.A. two years later. He came from Cornwall to Sussex, and settling at Shoreham was appointed to a number of posts, for besides the medical officership already mentioned he held appointments in connexion with the Poor-law, the railway, and the port of Shoreham. In addition he had an extensive private practice, so that his record of professional service was a considerable one. It was a wrench to him to give up the many positions he had held so long, but, unfortunately, he had not of late enjoyed the best of health. The urban council and the local court of Foresters placed on record in illuminated addresses their testimony of the manner in which Mr. Kempe had always discharged his duties, and it was extremely gratifying to him to know that in April last the ratepayers of Shoreham elected him to a seat on the urban council, the body which he had so faithfully served as medical officer. He was a prominent Freemason, a past master of the local lodge, and founder of another lodge; while at the time of his death he was chairman of the board of managers of the Shoreham council school. He was the author of "The General Practitioner's Visiting List, Journal, Almanack, and Memorandum Book." Mr. Kempe was 69 years of age. His body was interred in Shoreham cemetery on May 26th.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Theodor Wilhelm Engelmann, who had only recently retired from the chair of physiology. He was born at Leipsic in 1843 and studied in Jena, Leipsic, Heidelberg, and Göttingen. He then went to Utrecht as assistant to Professor Donders, whom he succeeded in 1889 as professor of physiology, remaining in that post until 1897, when he succeeded to Professor du Bois-Reymond's chair in Berlin. He has edited the *Archiv für Physiologie* for the last ten years. His own original papers include a great variety of subjects—e.g., the Origin of Muscular Force, the Colouring of Plants, the Structure of the Cornea, the Action of Light on the Retina, and the Physiology of the Heart.—Dr. Ferdinand Kornfeld of Vienna, whose name is well known in connexion with researches on the urinary organs.—Dr. Yêvetski, professor of ophthalmology in the University of Yurieff (Dorpat).

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill will shortly publish the following works. A new edition of "Minor Surgery and Bandaging," revised by Mr. Bilton Pollard, surgeon to University College Hospital. The first edition of this work, by Mr. Christopher Heath, was issued 48 years ago. The present (fourteenth) edition has been enlarged by nearly 100 pages and contains many new figures and a frontispiece of a surgeon in aseptic operating costume. "An Atlas of Dental Extractions, with Notes on the Causes and Relief of Dental Pain," by Mr. C. E. Wallis, assistant dental surgeon, King's College Hospital. The text will be supplemented with a series of illustrative plates.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following degrees were conferred on May 27th:—

M.D.—R. E. French, King's; J. C. L. Roberts, Clare; and F. W. M. Palmer, Jesus.
M.B., B.C.—F. C. Trapnell, King's; and J. W. B. Bean, H. Selwyn.
M.B.—N. Maclaren, Trinity; F. Worthington, St. John's; G. H. Davy, Gonville and Caius.

UNIVERSITY OF LONDON.—At examinations held in May for the M.B., B.S. degree the following candidates were successful:—

[illegible] Sydney Furness, University College Hospital; Colin James Galbraith, King's College Hospital; Horace Gooch, London Hospital; Alexander Edward Gow, St. Bartholomew's Hospital; Frederick Whewell Hogarth, Guy's Hospital; Edward Ratcliffe Holborow, University College, Bristol; Maurice James [illegible] John Edward Scudamore, [illegible] ndon (Royal Free Hospital) [illegible] Stocks, Victoria University [illegible] Tolhurst, Guy's Hospital, [illegible] w's Hospital; James Owen [illegible] Herbert George Willis, [illegible] Wood, Guy's Hospital.

* Distinguished in Medicine † Distinguished in Pathology.
‡ *Distinguished in Forensic Medicine and Hygiene.*
§ Distinguished in Surgery.

The following candidates have passed in one of the two groups of subjects:—

[illegible]

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Georg Nicolai, *privat-docent* of Physiology, has been granted the title of Professor.—*Bonn:* Dr. Paul Krause of Jena has been appointed Extraordinary Professor of Medicine.—*Caen:* Dr. Osmont has been appointed to the chair of Extraordinary Pathology and Operative Medicine.—*Clausenburg:* Dr. Nikolaus Jancsó has been appointed Extraordinary Professor of Clinical Diagnosis.—*Halle:* Dr. Rudolf Disselhorst, Director of the Anatomical and Physiological Institute, who has hitherto only held the position of Extraordinary Professor, has been promoted to a full Professorship.—*Marburg:* Dr. Paul Sittler has been recognised as *privat-docent* of Children's Diseases.—*Munich:* Dr. A. Hasselwander has been recognised as *privat-docent* of Anatomy.—*Munster:* This University, which has hitherto only possessed a partial medical school, is now about to be provided with a complete medical faculty.—*Toulouse:* Dr. Soulié, *agrégé*, has been appointed Assistant Professor of [illegible] *agrégé*, Assistant Pro- [illegible] Assistant Professor of [illegible].—*Vienna:* Dr. Karl Schwartz has been recognised as *privat-docent* of Physiology.—*Würzburg:* Dr. Hotz, Assistant in the Surgical Clinic, has been recognised as *privat-docent* of Surgery.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A general meeting of this society will be held at 5.15 P.M. on Friday, June 11th, at 20, Hanover-square, W., at which the officers and council will be elected for the ensuing session, the annual report of the council will be received, and the proposed amalgamation of the society with the Royal Society of Medicine, recommended by the council, will be discussed. An address will be delivered subsequently by *Sir James Barr on the Peripheral Circulation and its Treatment.* At 7.30 o'clock on the same evening the annual dinner of the society will take place at the Georgian and Adams Rooms, Piccadilly Restaurant, when the President, Mr. Ernest Solly of Harrogate, will take the chair. The President has arranged for an entertainment, at which the Misses Ridley, classical dancers; Mr. Byrd Page, prestidigitateur; and Miss Edith Wesley, contralto, will appear. The price of the dinner ticket is 7*s.* 6*d.*, exclusive of wine.

DONATIONS AND BEQUESTS.—Under the will of the late Mr. J. A. D. Shipley of Gateshead the following bequests amongst others are made:—£2000 to the Royal Infirmary for the Sick and Lame Poor of Newcastle-upon-Tyne, Northumberland, and Durham; £1000 to the University of Durham College of Science, Newcastle-upon-Tyne; £300 to the Fleming Memorial Hospital for Sick Children, Newcastle; £300 to the Hospital for Sick Children, Gateshead; £300 to the Northern Counties Blind Asylum, Newcastle; £250 to the Newcastle-upon-Tyne Dispensary; £250 to the Gateshead Dispensary; £250 to the Prudhoe Convalescent Home, Whitley; £200 to the Eye Infirmary, St. Mary's-place, Newcastle; £200 to the Northern Counties Institute for the Deaf and Dumb, Newcastle-upon-Tyne; £200 to the Throat and Ear Hospital, Saville-row, Newcastle; £200 to the Hospital for Diseases of the Throat and Ear, Clayton-street, Newcastle. The residue of the testator's estate will eventually be divided amongst these institutions, each of which will receive bequests equal to a [illegible] stated above.—By the will c [illegible] Clifton, Bristol, the Churcl [illegible] Auxiliary) will receive a speci [illegible] quently an additional sum of about £12,000.

DURHAM UNIVERSITY MEDICAL GRADUATES' ASSOCIATION.—The annual meeting of this association was held on May 28th at 11, Chandos-street, London, W., Mr. H. Brunton Angus being in the chair. The treasurer's report was agreed to after some criticism. The following officers were then elected: Dr. W. Rawes, President; Dr. T. Beattie and Dr. M. G. Biggs, Vice-Presidents; Dr. W. Martin and Dr. J. Inglis Parsons, honorary secretaries; and 18 members of council and three auditors. Dr. Rawes, Dr. Martin, and Dr. T. M. Allison were elected representative governors of the court of the Durham College of Medicine. The report of the subcommittee on the University Bill was approved. Sir T. Lauder Brunton and Dr. F. W. Mott were unanimously elected honorary members of the association. The members and their guests dined together the same evening at the Café Royal, Dr. Rawes, the new President, being in the chair. The toast of the "University of Durham" was proposed by Mr. H. Brunton Angus and responded to by Sir George Hare Philipson; that of "The Association" was proposed by Dr. Mott and responded to by Dr. Parsons. The toast of "The Guests" was proposed by Dr. F. M. Sandwith and responded to by Sir James Barr in humorous terms. Among those present were Sir Henry Burdett, Dr. C. A. Mercier, the Master of the Society of Apothecaries, Sir W. H. Allchin, Mr. T. H. Openshaw, Dr. C. W. Chapman, Dr. F. S. Palmer, and others. Some excellent music was provided by Mr. A. E. Godfrey and a most enjoyable evening was passed.

WORTHING HOSPITAL.—In accordance with the decision of the committee of management of the Worthing Hospital on May 14th to increase the honorary medical staff, the committee on May 28th elected the following gentlemen: Mr. H. F. Hyde, Dr. H. Leeds Harrison, Mr. E. H. Good, and Mr. P. J. Le Riche.

THE WEST AFRICAN MEDICAL STAFF.—The summer dinner of the West African Medical Staff will take place on Monday, June 21st, at the New Gaiety Restaurant, London. Members of the staff who intend to be present should communicate without delay with Dr. W. T. Prout, C.M.G., 78, Rodney-street, Liverpool.

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE FRIENDLY SOCIETY.—The annual general meeting of the members of this society was held in the rooms of the Medical Society of London on May 27th. The report for 1908 shows the society to be in a thoroughly sound condition. At the end of the year the total membership amounted to 2723, being an increase of 140 over that of the previous year. The funds amount to £223,994 after the disbursement of £14,447 in sickness benefit during the year. The present annual income from sick insurance premiums is £17,010. Since the society was founded in 1884 over £140,000 have been paid out in sickness benefit to members. As the recent quinquennial valuation shows a surplus of £9040 in the sickness fund, all members entitled to its benefits receive at the age of 65 a 10-guinea bonus for every guinea per week of sick benefits to which they have become entitled during their membership with a proportionate sum to those who have increased their sick benefit amounts. As a surplus of £4303 exists on the life assurance branch a bonus of 15 per cent. on the sum assured is to be added to all payments made in response to claims on life assurance contracts falling due during the present quinquennium. In pursuance of this policy of the society £13,000 have already been paid out as bonus money. The society is open to all male members of the medical profession or Licentiates in Dental Surgery practising in the United Kingdom. The chairman of the executive committee is Dr. F. de Havilland Hall and the secretary of the society is Mr. F. Adiscott, F.I.A., 33, Chancery-lane, W.C.

LIVINGSTONE COLLEGE.—Commemoration Day was celebrated at Livingstone College, Leyton, on May 26th, in the presence of a large gathering, under the presidency of the Very Rev. Dr. Butler, Master of Trinity College, Cambridge. The Principal, Dr. C. F. Harford, in his opening statement, commented on the great progress which had taken place since Professor A. Macalister gave the inaugural address in the first premises of Livingstone College 15 years ago. Public opinion had entirely changed as to the necessity of medical training for missionaries, and it was now regarded as an absolute necessity for missionaries to have some medical knowledge. The Master of Trinity referred to the loss of Bishop Mackenzie, of his own sister, wife of the late Bishop Brown, and of other missionaries from fever, and said that the training given at Livingstone College would save many such valuable lives. Professor Macalister said that though doubts had been expressed as to the wisdom of the training given, he thought that these doubts had long since been laid aside, and as an old medical teacher he had thorough confidence in the course of training given at the College. From his experience in many parts of the world, especially in Syria and in China, he believed that it was a necessity for a missionary to be able to render simple medical aid to the natives, and in the absence of qualified medical aid it was most important that ordinary missionaries should have such elementary medical training as is given at Livingstone College. He hoped that before long some such training would be regarded as an absolute necessity for every missionary. Dr. M. A. Stein, the intrepid Central Asian explorer, bore testimony to the skill and kindness of an old student of Livingstone College, who had rendered him valuable surgical aid for frost-bite when travelling in the Himalayas. Mr. W. McAdam Eccles moved a hearty vote of thanks to the chairman and speakers. The meeting terminated with the Benediction, which was pronounced by the Master of Trinity.

BRIGHTON SCHOOL CANTEENS.—Some interesting figures were given in the annual report of the Brighton elementary schools canteen committee submitted to the education authority at its meeting on May 25th. The report dealt with 12 months from May 5th, 1908, to May 3rd, 1909, covering, as it did, the second year's working of the free meal distribution in the borough. It appeared that of 17,257 children on the books 1427 (or 8 per cent.) received free meals. In the year previous the number of children receiving free meals was 1213. The total number of free meals granted was 113,490, or an increase of 27,288 upon the previous year. This great increase was not explained when the report was presented to the education committee, but evidently the authority is quite satisfied inasmuch as it passed the report without comment and resolved "that, feeling satisfied that there are children in the elementary schools who are unable, by reason of lack of food, to take full advantage of the education provided for them, also that funds other than public funds are not available, the Brighton town council be requested to make application to the Board of Education under Section 3 of the Education (Provision of Meals) Act, 1906, for sanction for the spending of £500 from the rates during the financial year ending March 31st, 1910, for the purpose of defraying the cost of food furnished in meals under the Act." The cost to the rates for the provision of food was £427 3*s.* 2*d.*, and as £10 2*s.* 8*d.* had been received by the sale of 1*d.* dinners and surplus food the net cost to the rates for food was £417 0*s.* 6*d.* The gross cost of the canteens was £737 15*s.* 1*d.* and the net cost £727 12*s.* 5*d.*

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Whitsuntide Holidays.

BOTH Houses of Parliament have had an adjournment for the Whitsuntide holidays. The House of Lords will not meet again until June 23rd, but the Commons were only able to take a week's vacation. Parliament is to all appearance entering on a very strenuous period of the session. The Finance Bill, which has now been published, is a very long and complicated measure, bristling with points of controversy. The Opposition regards many of its proposals with undisguised hostility, and a long and keen Parliamentary fight may be expected in consequence. Many Members of the House of Commons were disappointed that in anticipation of the physical strain which may be put upon them in the next three months in sitting late the holidays were not longer.

The Tuberculosis Order.

A motion has been passed by the House of Commons for the presentation and publication of the Tuberculosis Order of 1909 and of a Circular Letter issued by the Board of Agriculture and Fisheries to local authorities in Great Britain under the Diseases of Animals Acts, 1894 to 1903. The Order in question has an important bearing on the milk legislation of the Government.

Experiments on Living Animals.

A return has been ordered showing the number of experiments on living animals during the year 1903 under licences granted under the Act 39 and 40 Vic., c. 77, distinguishing the nature of the experiments.

The Superannuation of Asylum Officers.

A considerable amount of evidence has been taken by the Select Committee of the House of Commons on the subject of the superannuation of asylum officers. Amongst the witnesses on May 25th was Dr. BOWER, Bedford, chairman of the Parliamentary Committee of the Medico-Psychological Association. He stated to the committee that in the absence of a guaranteed pension system the asylum service had not always the same inducements as other branches of the public service to offer in order to attract the best possible recruits The Association cordially welcomed the principle of the Bill.

HOUSE OF COMMONS.

WEDNESDAY, MAY 26TH.

Malaria in the Colonies.

Mr. RAMSAY MACDONALD asked the Under Secretary of State for the Colonies whether the 11 colonies which made no special report on malaria, in response to the circular of June 6th, 1906, had since been communicated with and had been asked to furnish reports.—Colonel SEELY replied: Yes, sir. A special circular has recently been sent out by the Secretary of State with a view to obtaining fuller information with regard to anti malarial measures, both from the colonies to which my honourable friend refers and from other tropical colonies.

Mr. RAMSAY MACDONALD further asked whether the Colonial Office had made any representation to the Government of St. Kitts-Nevis [illegible] elective body.

The Prevention of Disease in Gaelic-speaking Districts.

Mr. WEIR asked the Lord Advocate whether, in view of the statement contained on page 32 of the recently issued report of the medical officer for Ross and Cromarty, he would state whether the leaflets [illegible] translated into Gaelic and [illegible] Lewis, as soon as possible. [illegible]

The Infectious Diseases Hospital, Stornoway.

[illegible] friend.

Mr. WEIR: In view of the urgency of the matter will the right honourable gentleman ask the Secretary for Scotland to approach the Chancellor of the Exchequer with a view to getting the necessary money out of the millions which he is raising?—Mr. URE: I shall make the effort, but I cannot hold out hope that it will be successful.

The President of Madras Medical College.

Mr. MOONEY (for Mr. KETTLE) asked the Under-Secretary of State for India whether the present president of the Medical College, Madras, was appointed to that post after having acted as surgeon on the personal staff of three successive governors of Madras, and what [illegible]

Enteric Fever amongst Soldiers.

Captain CLIVE asked the Secretary of State for War whether he was [illegible] question evidently refers to the seven non-commissioned officers and men under treatment at the Millbank Military Hospital. I am informed that [illegible] their comrades [illegible] mendation of [illegible] special treatment to see if their condition is curable. This treatment has met with encouraging results and one at least of the cases, it is hoped, has been cured. Although patients in hospital, they are allowed considerable freedom and are not treated as ordinary patients. [illegible] say how long [illegible] of the bacilli [illegible] not quite unproved?

Mr. HALDANE: No, I do not think so. The advance in medical science on this subject within the last two years has been enormous.

Mr. JOHN WARD: Are these experiments being made with the sanction of the men; and in case of permanent injury to their health will the men be pensioned?

Mr. HALDANE: I do not know why the honourable member treats these as experiments. They are a well-known ascertained cure.

The Medical Examination of Yeomanry Recruits.

Mr. MARTEY THOMPSON asked the Secretary of State for War whether he was aware that it was frequently the case that medical men were allowed only 1s. per head for every Yeomanry recruit who was passed, and that they received no payment for the examination of recruits who were not passed, and whether he would consider the advisability of amending this system, which offered a distinct inducement to medical men to pass recruits who on the outbreak of war [illegible] Mr. HALDANE replied: The fees paid [illegible] at the discretion of the county [illegible] to the 1s. rate when payment is [illegible] paying for men examined but not passed.

Poor-law Statistics in Ireland.

Dr. AMBROSE asked the Chief Secretary to the Lord Lieutenant of Ireland what was the number of persons in receipt of indoor relief in Ireland during the year ending March 31st, 1909, exclusive of children and the sick; what was the number of children in the workhouses during the same period; what was the number of sick in union hospitals in the same period; what was the number of persons on outdoor [illegible]

BOOKS, ETC., RECEIVED.

ASH (CLAUDIUS), SONS, AND CO., LIMITED, London.

Notes on Dental Anatomy. By G. A. Peake, M.R.C.S., L.D.S. Eng., L.R.C.P., L.S.A. Lond. Price not stated.

[illegible] Aberd., F.R.C.S. Eng. Price 10s. net.

CREMATION SOCIETY OF ENGLAND, London.

Cremation in Great Britain. 1909. First Edition (10,000). Price 6d.

DULAU AND CO., London.

The Groundwork of Eugenics. By Karl Pearson, F.R.S. Price 1s.

GRIFFIN, CHARLES, AND COMPANY, LIMITED, London.

Diseases of the Organs of Respiration. By Samuel West, M.A., M.D., F.R.C.P. In Two Volumes. Second Edition, revised. Price 36s. net.

HEINEMANN, WILLIAM, London.

Sir Guy and Lady Rannard. By H. N. Dickinson. Price 6s.

HÖLDER, ALFRED, Wien und Leipzig.

Die Erkrankungen der Schilddrüse, Myxödem und Kretinismus. Von Dr. C. A. Ewald. Zweite, völlig neu bearbeitete Auflage. Price M.8.50.

KING, P. S., AND SON, London.

[illegible] An Abstract of the Report of [illegible] Care and Control of the Feeble- [illegible] by the Right Hon. Sir Edward [illegible]

LAURIE, T. WERNER, London.

The Education of the Will. A Popular Study. By T. Sharper Knowlson. Price 6s. net.

The Modern Mother. By H. Laing Gordon, M.D. Price 6s. net.

LEHMANN, J. F., München.

Fünfundzwanzig Jahre knappschaftsärztlicher Praxis beim Eschweiler Bergwerks-Verein ([illegible]-1907). Von Dr. Janres, in Eschweiler. Price M.2.

LEWIS, H. K., London.

House-Drainage, Sewerage, and Sewage Disposal in Relation to Health. By Louis C. Parkes, M.D., D.P.H. Price 2s. net.

LINDLEY, PERCY, London. (GREAT EASTERN RAILWAY COMPANY, London.)

The Great Eastern Railway Company's Tourist Guide to the Continent. (With Travel Talk in German, French, and English.) Edited by Percy Lindley. Illustrated and with Maps. Price 6d.

[illegible] New York, Bombay, and Calcutta. [illegible]

LONDON PUBLICITY COMPANY, LIMITED, London.

120 Years of Life and How to Attain Them. By Charles Reinhardt, M.D. (A Treatise upon the Use of Lactic Ferments for the Prevention and Cure of Disease and the Prolongation of Life.) Price 1s.

MALOINE, Paris.

Une Campagne Criminelle. Avortement et Néomalthusianisme. Par J. Leroy-Allais. Price not stated.

MASSON ET CIE., Paris.

Traité de Chirurgie d'Urgence. Par Félix Lejars. Sixième édition, revue et augmentée. Price Fr.30.

MCQUEEN, J., AND CO., Leicester.
McQueen's Private Account Book. Price 10*s.* 6*d.*, post paid.

METHUEN AND CO., London.
Drugs and Drug Habit. By Harrington Sainsbury, M.D., F.R.C.P. Price 7*s.* 6*d.* net.

MITTLER, ERNST SIEGFRIED, UND SOHN, Berlin.
Medizinal-Berichte uber die [illegible] Ostafrika, Kamerun, Togo, [illegible] Karolinen, Marshall-Inseln [illegible] Herausgegeben vom Reichs-Kolonialamt. Price M. 9.

MURRAY, JOHN, London.
The Recent Development of Physical Science. By William Cecil Dampier Whetham, M.A., F.R.S. Price 5*s.* net.

PITMAN, SIR ISAAC AND SONS, LIMITED, LONDON.
Body and Soul. An Enquiry into the Effects of Religion upon Health, with a Description of Christian Works of Healing from the New Testament to the Present Day. By Percy Dearmer, M.A. Price 6*s.* net.

Appointments.

[illegible] Vacancies, Secretaries of Public Institutions, [illegible] information suitable for this column, are [illegible] THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BAGNALL, R. G. A., M.B., Ch.B. Edin., has been appointed Assistant Medical Officer at the Newcastle-on-Tyne City Asylum, Gosforth.

BALY, A. L., M.R.C.S., L.R.C.P. Lond., has been appointed First Assistant Medical Officer at the Lambeth Infirmary.

BIDIE, EVAN, L.R.C.P. & S.Edin., L.F.P.S. Glasg., has been appointed Assistant Medical Officer at Wye House Asylum, Buxton.

BYGOTT, ALBERT HENRY, M.D. Lond., D.P.H. Birm., Barrister-at-law, has been appointed Medical Officer of Health of Barking.

HAILES, C. D. G., M.D. Edin., F.R.C.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Bristol District of the county of Gloucester.

HALL, JOHN BASIL, M.B., B.C. Cantab., F.R.C.S. Edin., has been appointed one of the Medical Referees under the Workmen's Compensation Act, 1906, for County Court Circuit No. 11, to be attached more particularly to Bradford, Keighley, Otley, and Skipton County Courts.

RISELEY, STANLEY, M.D. Edin., has been appointed one of the Medical Referees under the Workmen's Compensation Act, 1906, for County Court Circuits Nos. 13 and 18.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHLEM HOSPITAL.—Two Resident House Physicians, unmarried, for six months. Salary at rate of £25 each per quarter, with apartments, board, and washing.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £170 per annum, with rooms, fire, lights, and attendance.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Resident Medical Officer. Salary £150, with board and residence. Also House Surgeon for six months. Salary at rate of £75 per annum, with board and residence.

BOURNEMOUTH, ROYAL BOSCOMBE AND WEST HANTS HOSPITAL.—House Surgeon, for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—House Surgeon, unmarried. Salary £130 per annum, with board and residence.

BRITISH EAST AFRICA, CHURCH OF SCOTLAND MISSION, Kikuyu.—Medical Missionary.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Surgeon also Assistant House Surgeon, both unmarried. Salaries £80 and £60 per annum respectively, with board, lodging, and washing.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—Assistant Surgeon.

CENTRAL LONDON SICK ASYLUM, Colindale Avenue, The Hyde, Hendon, N.W.—Assistant Medical Officer and Dispenser. Salary £110 per annum, with board and residence.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with board, apartments, and laundry.

CHINA, CHURCH OF SCOTLAND MISSION, Ichang.—Medical Missionary.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with residence, board, and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, S.E.—[illegible] Salary at rate of £60 per annum, [illegible]

EXE[illegible] HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

HAMPSHIRE COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary £250 per annum, and allowances.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Assistant Casualty Medical Officer, unmarried, for six months. Salary £30, with board and residence.

INDIAN MEDICAL SERVICE, India Office, London.—Twenty-one Commissions.

INVERNESS, NORTHERN INFIRMARY.—House Surgeon. Salary £100 per annum, with board, &c.

IPSWICH, EAST SUFFOLK HOSPITAL.—Senior House Surgeon. Salary £80 per annum.

KINCARDINE (ROSS-SHIRE) PARISH COUNCIL.—Resident Medical Officer and Vaccinato[illegible]

KING'S COLLEGE [illegible]

KING'S COLLEGE [illegible] Psychological Medicine.

LEEDS GENERAL INFIRMARY.—Resident Surgical Officer; also Resident Casualty Officer. Salaries £150 and £125 per annum respectively, with board, lodging, and washing. Also Honorary Assistant Surgeon.

LINDSEY (LINCOLNSHIRE) EDUCATION COMMITTEE.—Two School Medical Inspectors. Salary £300 per annum.

LONDON HOSPITAL MEDICAL COLLEGE.—Assistant to the Bacteriologist and Lecturer on Bacteriology.

LONDON MEDICAL MISSION, Endell-street, W.C.—Medical Officer, unmarried. Salary £100 per annum, with board and lodging

LONDON TEMPERANCE HOSPITAL.—Assistant House Surgeon, for six months. Salary at rate of £75 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Junior Resident Medical Officer. Salary £[illegible] per annum, with board and residence.

NORWICH, JENNY LIND INFIRMARY FOR CHILDREN, Unthank-road.—Resident Medical Officer (female). Salary £50 per annum, with board, apartments, and laundry.

NORFOLK COUNTY ASYLUM, Thorpe, Norwich.—Second Assistant Medical Officer, unmarried. Salary £160 per annum, with board, apartments, attendance, and laundry.

QUEENSLAND, AUSTRALIAN INSTITUTE OF TROPICAL MEDICINE, Townsville.—Director of the Institute.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.—Lecturer on Physiology.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—Resident Surgical Officer, House Physician, and Junior House Surgeon. Salaries £120, £100, and £50 per annum respectively, with apartments, board, and washing.

WALSALL AND DISTRICT HOSPITAL.—House Surgeon, also Junior House Surgeon. Salary of former £100 and of latter £80 per annum, with board, residence, &c.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and washing.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician, unmarried. Salary £65 per annum, with board, residence, &c.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £80 per annum, with apartments, board, and laundry.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Two House Surgeons. Salary £80 per annum, with board, lodging, and laundry.

WORCESTER GENERAL INFIRMARY.—House Physician. Salary £100 per annum, with board, residence, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Lostwithiel, in the county of Cornwall; and at *Cleland*, in the county of Lanark.

Births, Marriages, and Deaths.

BIRTHS.

ALMOND.—On May 31st, at Lynvale, Bath, the wife of G. Hely-Hutchinson Almond, M.A., B.M., Ch.B. Oxon., M.R.C.S., L.R.C.P., of a son.

BALFOUR.—On May 29th, at Court Lodge, Deal, the wife of Andrew Balfour, M.D., of Khartoum, of a son.

EAST.—On May 28th, at 2, North-road, Clapham Park, S.W., the wife of William Norwood East, M.D. Lond., of a daughter.

STEWART.—On May 29th, at Dyffryn, Dulwich, the wife of H. M. Stewart, M.A., M.D., of a daughter.

TURNER.—On May 30th, at Westbury, Purley, Surrey, the wife of Sydney Duke Turner, M.D., B.S., D.P.H., of a son.

MARRIAGES.

GOOD—ANGUS.—On June 1st, at St. Mungo's Church, Balerno, Midlothian, Edgar Hubert Good, M.R.C.S., L.R.C.P., eldest son of the late Edward John Gregory Good, of Long Ditton, Surrey, to Alice Josephine, daughter of the late Joseph Angus, of Hampstead.

LYLE—PLAYFAIR.—On May 27th, at Christ Church, Mayfair, Herbert Willoughby Lyle, M.D., F.R.C.S., to Annie Seaton, widow of David Thomson Playfair, M.D., F.L.S., and daughter of Edwin William Winton of Speldhurst, Kent.

DEATHS.

CRIPPS.—On May 25th, at Thomas street House, Cirencester, Edward Charles Cripps, M.R.C.S., L.R.C.P., aged 54 years.

HAMES.—On May 28th, George Henry Hames, F.R.C.S.

RAMSDEN.—On June 1st, after a long illness, Henry Kay Ramsden, M.B., B.Ch., aged 42 years, of 102, Sloane-street, Chelsea. Funeral at Saddleworth, Yorkshire, on June 6th.

SHEPHERD.—On May 28th, at Finchley, J. Brooks Shepherd, M.R.C.S., formerly of 8A, New Cavendish-street, in his 75th year.

SYMINGTON.—At 17, Strathearn-place, Edinburgh (the residence of Hippolyte Blanc, R.S.A.), on May 29th, Juliet, wife of Dr Symington, Professor of Anatomy, Queen's College, Belfast, and daughter of the late William Bryce, architect.

N.B.—A fee of [illegible] of Births, [illegible]

Notes, Short Comments, and Answers to Correspondents.

MENTAL DISEASES IN THE ORIENT.

Dr. Massar Bey, professor of neurology in Stamboul, has published recently an instructive study of mental disease. In an especially interesting chapter he deals with the differences in origin of insanity as manifested in the Orient and Western Europe respectively. It is generally accepted that mental diseases are of rarer occurrence in the East than in the West. Dr. Massar Bey gives the following reasons. Of the numerous poisons that undermine the bodily health and ruin *the nervous system of Europeans many are quite unknown in the* East, or known only in a very slight degree. This is the case for instance, with lead poisoning resulting from industrial occupation, while morphine, cocaine, and atropine are hardly ever used by the Eastern. Oddly enough, it is very seldom that victims of the opium or hashish habits are found in asylums. Foremost consideration of all is the fact that the pernicious effects of alcoholism, which account for so many nervous and mental diseases in the West, are absolutely unknown in the East. The Oriental uses alcohol only in exceedingly rare cases. It is the religious duty of the follower of Islam never to touch alcoholic drinks, but the non-Mussulman population also are much more sober in Eastern countries than in Europe. Thus Jews and Armenians are hardly ever seen drunk. Ailments, therefore resulting from the excessive use of alcoholic drinks are very seldom met with. Other causes of the rare occurrence of mental disability in the East are to be found in the modes and habits of living and in the ethical precepts of its peoples. The fatalistic trend of mind of an Oriental saves him from excessive worry and grief over the death of a beloved person or the loss of a valuable property. His religion helps him in a remarkable way. The acceptance of kismet is the guiding rule at every turn of life. Dr. Massar Bey says that Mahomedan *children are taught in their early school days to learn entire sub*missiveness to the unavoidable decrees of kismet, and summarises this philosophy in somewhat remarkable words: "We aspire in our spiritual activity to an abiding and logical ideal. All our existence is due to but a mere chance. What we possess does not cause us the highest satisfaction and joy, because we think that it is not ours. Its loss therefore never puts us into a state of inconsolable mourning. We work in the hope of success, but if success does not follow we quietly consider that it is not our fault, that all lies in the hands of kismet." Another advantage on the side of many an Oriental is to be found in the simplicity and natural manner of his living. He has no exciting evening entertainments, no balls, no late hours of amusement. He despises excess of every sort and he looks for his happiness to his family life.

AN INVESTIGATION INTO THE INDUSTRIAL EMPLOYMENT OF MARRIED WOMEN.

To the Editor of THE LANCET.

SIR,—The investigation committee of the Women's Industrial Council is making an extensive inquiry into the industrial employment of married women—a subject upon which there is a great lack of detailed and classified information. As a rule, the inquiries of the council are confined *to London, but it has been felt* necessary to carry this one into other parts of the country, and the expenses will be correspondingly increased. Voluntary assistance has been and is being, given, and 300 to 400 cases have already been collected and in part tabulated, but much remains to be done, and the funds of the council, never large, must be supplemented by further contributions from the general public. It is estimated that at least £500 will be [illegible] any adequate manner [illegible] a large body of facts concerning the [illegible] be of especial value to the various [illegible] it will probably throw light upon infant mortality and physical deterioration as well as upon many industrial and some social problems. Its value in all these directions, [illegible] tradict, and we boldly ask for money to help in carrying out this useful work. Contributions should be sent to Miss L. Wyatt Papworth, secretary, Women's Industrial Council, at the office, 7, John-street, Adelphi, Strand.—We [illegible]

May 21st, 1909. L. WYATT PAPWORTH, Secretary.

LYNN THOMAS AND SKYRME FUND.

THE following additional subscriptions to the above fund have been received: *J. D. Williams (Cardiff)* £1 1s., *S. J. O. Fraser (Hastings)*, and W. C. Griffiths (Pontardulais), £2 2s.

THE RELATIVE IMPORTANCE OF SODIUM AND CALCIUM IN THE CAUSATION OF GOUT AND GOUTY DEPOSITS.

IN the *Bio-Chemical Journal* for February, Dr. W. G. Little recorded some interesting experiments which he has made on the solubility of the various salts of uric acid at the temperature of the body in water and in saline solution. In distilled water potassium biurate is soluble 1 in 550, sodium biurate 1 in 1030, magnesium biurate 1 in 2440, and calcium biurate 1 in 4760. When the distilled water was replaced by ½ per cent. solution of sodium chloride it was found that while the solubilities of the biurates of calcium and magnesium were somewhat increased, that of sodium biurate was reduced almost to zero. This result, it is thought, probably gives the key to two phenomena: first, the preponderance of sodium biurate in the body in gouty concretions, and secondly, the value of certain saline mineral waters empirically used in gout, their value depending upon the increased solubility of the biurates of calcium and magnesium in saline solutions. Attention *is specially directed to the relatively small amount of sodium chloride* [illegible] may have profound effects on the solubilities of the biurates in the body. In the language of physical chemistry, the effect of sodium chloride upon the solubility of sodium biurate may probably be referred to the mass action of the common sodium ion tending to throw out of solution the less soluble salt—viz., sodium biurate. Dr. Little has also found that the addition of even small percentages of calcium salts to distilled water had the effect of very much lessening its solvent power on sodium biurate. The experiments tend to show that the formation of deposits and tophi may be largely influenced by the presence of calcium salts. Dr. Little records two cases met with in his practice which afford suggestive evidence that sodium chloride is connected with gouty joint phenomena. In one of the cases a child aged five years developed acute arthritic symptoms in the feet and thighs, simulating acute rheumatism, after an overdose of sodium chloride given in the form of an enema for intestinal worms. The pathogenic significance of the sodium chloride was proved by the fact that as soon as its administration ceased, with no other medication except small doses of potassium citrate, the child rapidly became *and remained well. In the other case the enjoyment of a course of* boiled ham was followed by podalgic gout, first in one great toe joint and then in the other. Analyses of the urine collected when the attack was at its height and again when recovery was well advanced [illegible]

AN ETHNOLOGICAL THEORY OF PARASITIC DISEASE.

To the Editor of THE LANCET.

SIR,—The April number of *Janus* contains an article to which I should like to call the attention of physicians and historians. The writer, Dr. Otto Effertz, a governmental vaccinator in Mexico, attempts *to prove that the virulence of an infectious disease is not absolute but* relative, being the resultant of two factors varying according to the country in which the disease is endemic and the people who are attacked by it. These factors are: (1) the virulence of the microbe, which differs in different co[illegible] immune thro[illegible] the result of [illegible] natural selection evolves more powerful micro-organisms. On the other hand, a race of men is evolved more capable of resisting them. The resultant represents the malignity of the disease, and it will vary as the factors vary. Dr. Effertz then notices two remarkable facts: (1) African malaria is deadly for Europeans, but very mild for Africans; (2) American malaria is deadly for American Indians, but mild for Europeans. He infers (*a*) that the African parasite has grown more virulent during the thousands of years it has been in Africa; (*b*) *that the American parasite is much less virulent, having been* recently carried to America. The African negro has won his battle, the European has partly won it, the American Indian has yet to win it. The European is superior to the American parasite but inferior to the African parasite. The Indian is inferior, the African negro superior to both.

Dr. Effertz applies similar reasoning to syphilis and yellow fever. He holds that the Spaniards could not have carried out their conquests if the continent had been as fever-stricken as it is now, and as a matter of fact history tells us little about fever in those days. Malaria was probably brought over from Europe; it now kills over 50 per cent. of all Mexican Indians. America is credited, by way of return, with having given syphilis to Europe.—I am, Sir, yours faithfully,

W. H. S. JONES.

St. Catharine's College, Cambridge.

CHILDREN'S COUNTRY HOLIDAYS FUND.

WITH its recent annual meeting at the Hotel Metropole the Children's Country Holidays Fund completed the first 25 years of its existence. That the number of children sent away year by year has increased [illegible] sufficient proof that the work has [illegible] and the total sent during the [illegible] voluntary subscriptions totalled [illegible] or further funds to continue and extend the work Canon S. A. Barnett, the chairman of the Fund, points out that there are 800,000 children in the elementary schools of London, for whose benefit the Fund exists.

That the parents appreciate the efforts made on their behalf is evidenced by the fact that they contributed in small sums no less than £9875 towards the cost, an average of about 4*s.* 2*d.* per child, the total expenditure being about £31,000. It would not be possible to send away this number of children were it not for the untiring efforts of the voluntary workers in town and country, who number over 2000. Although the number sent is large, the present yearly total is not 6 per cent. of the elementary school population. Far more ask to go away, but they cannot be sent without a largely increased subscription list and further personal service. We have pleasure in seconding the council's earnest appeal for further help, as the fund is undoubtedly working in the real interest of the public health. Contributions should be sent to the treasurer, the Earl of Arran, 18, Buckingham-street, Strand, London, W.C.

◆

Oyster.—Our correspondent evidently has in mind an article which appeared in THE LANCET of Jan. 3rd, 1903, p. 71, in which we gave an analysis of the oyster and an account of its solubility in various beverages, of which diluted gin appeared to be the most effective, then chablis, whilst in stout the mollusc was practically insoluble.

Sero sed serio.—The story as told is not quite comprehensible. We must be trusted with a full account before we give any definite reply, but there does not seem to be reason for a cessation of the usual professional relations.

Lex.—We consider that the General Medical Council would take action on the information submitted by our correspondent.

ERRATUM.—Mr. H. W. Bayly, in his paper on "The Serum Diagnosis of Syphilis" published in THE LANCET of May 29th (p. 1523), acknowledged his thanks to Mr. W. J. C. Keats for allowing him access to cases. In this acknowledgment Mr. Keats was described inadvertently as medical superintendent of the Hammersmith Infirmary instead of the St. Giles's Infirmary, Camberwell.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—Herbert F. Waterhouse, Walter G. Spencer): at 5.30 P.M.

Papers:

Mr. Walter G. Spencer: Benign Tumours—Fibroma, Myoma, Lipoma—Encapsuled in the Wall of the Stomach.

Mr. E. Stanmore Bishop: Some Cases of Gastric Surgery.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—H. Beckett-Overy, William J. Gow): at 7.45 P.M.

Specimens:

Dr. G. E. Purslow: (1) Uterus, with Fibroid Tumour, from a Case in which Cæsarian Hysterectomy was performed; (2) Bilateral Ovarian Tumours, One of which Obstructed Labour on Two occasions.

Dr. W. J. Gow: Cancer Originating Separately in the Uterine Body and in the Cervix.

Short Communications:

Mr. J. Bland-Sutton [illegible] Fibroid, associated with [illegible]

Dr. G. Darwall Smi[illegible] Ovary.

Dr. Kedernath Das: Fœtal Chondro dystrophia.

Papers:

Dr. J. S. Fairbairn: Primary Chorion Epithelioma of the Ovary.

Dr. Blair Bell: A Case of Rudimentary Uterus Didelphys, with Ectopia of Each Uterine Body in an Inguinal Hernia Sac; with Some Remarks on the Development of the Female Genital Organs.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

WEDNESDAY.—8.30 P.M., Captain E. B. Waggett, R.A.M.C. (T.): The Mouth, Nose, Throat, and Ear from the Point of View of Recruiting.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos-street, Cavendish-square, W.

THURSDAY.—8 P.M., Card Specimens will be shown by Mr. F. Fergus, Mr. F. W. Edridge-Green, Mr. A. Lawson, Mr. J. H. Fisher, and others. 8.30 P.M., Mr. W. H. H. Jessop: The Report of the [illegible] the Unification of the Notation of Meridians of Astigmatism.—Mr. [illegible] with Congenital Displacement of [illegible] Congenital Opacities of Lenses.—Mr. A. [illegible] and Mr. A. W. Ormond: A Case of Retinal [illegible] Dr. G. M[illegible]

FRI[illegible] Mr. Nettleship: Some Diseases [illegible] (Bowman Lecture).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, [illegible] Chenies-street, W.C.

MONDAY.—4 P.M., Dr. G. Little: Clinique (Skin). 5.15 P.M. Lecture:—Dr. W. H. B. Stoddart: The Early Signs of Ment Disorder.

TUESDAY.—4 P.M., Dr. L. Guthrie: Clinique (Medical). 5.15 P.M. Lecture:—Dr. H. Mackenzie: Diagnostic Methods in Tube culosis.

WEDNESDAY.—4 P.M., Mr. E. L. Evans: Clinique (Surgical). 5.15 P.M. Lecture:—Mr. F. Jaffray: Appendicitis—Symptoms a Diagnosis.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgica 5.15 P.M., Lecture:—Mr. J. Clarke: The Clinical Examinati of Spinal Cases.

FRIDAY.—4 P.M., Dr. D. Grant: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmit road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration Cases in Wards. 12 noon, Pathological Demonstration—D. Bornstein. 2 P.M., Medical [illegible] Mr. Dunn: Diseases of the Eye [illegible]

TUESDAY.—10 A.M., Dr. Moulli[illegible] 12.15 P.M., Lecture:—Dr. [illegible] 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr Etherington-Smith: Clinical.

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M. Lecture:—D[illegible] and Surgica[illegible] 2.30 P.M., [illegible] 5 P.M., Lect[illegible]

THURSDAY.—10 [illegible] of Cases in Wards. [illegible] X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Keetley: Clinical (with cases).

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Lecture—Medical Reg[illegible] in Wards. 2 P.M. Medical and [illegible] Dr. Davis: Diseases of the Throa[illegible] Operations. Dr Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Abraham Cases of Skin Diseases.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. Mr. Harman: Diseases of the Eyes. 12.15 P.M., Lecture:—Dr. G. Smith: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince o Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—[illegible] Surgical Out-patient (Mr. H. Evans) [illegible] R. Whipham); Nose 2.30 P.M., Medic[illegible] X Rays. 4.30 P.M., Medica Throat, and Ear [illegible] In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld) 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out patient (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles) 4.30 P.M., Demonstration:—Dr. A. H. Pirie: On the Use of X Rays in [illegible]

WEDNESDAY. [illegible] Out-patient (Dr. T. R. Whipham [illegible] Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Special Demonstration: Dr. T. R. Whipham: Cases of Children's Disease.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, *Dreadnought* Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 3.15 P.M., Special Lecture:—Mr. Turner:—Accidents complicating Operations.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Dr. R. Wells: Failing Heart.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale Barker: Radiography. Out-patient Demonstrations:—10 A.M., [illegible] noon, Ear and Throat.

FRI[illegible] 2.15 P.M., Dr. R. Bradford: [illegible] McGavin: Surgery. Out-patient Demonstrations:—[illegible] Surgical and Medical. 12 noon, Skin. [illegible] Demonstrations:—

SATURDAY.—2 P.M., [illegible] Eye. 10 A.M., Surgical [illegible]

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. F. Buzzard: Forms of Paraplegia and their Treatment.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. F. Buzzard: Forms of Paraplegia and their Treatment.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3 45 P.M., Lecture:—Mr. C. Nourse: Middle Ear Labyrinth

FRIDAY.—3 45 P.M., Lecture:—Mr. C. Nourse: Middle Ear Labyrinth.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck street, W.

MONDAY.—3 P.M., Clinical Demonstration: Dr. H. Campbell.
TUES
WE
THU
FRI P.M.,

OPERATIONS.

METROPOLITAN HOSPITALS

MONDAY (7th).—London (2 P.M.), St. Bartholomew's (1 30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt Northern Central (2.30 P.M.), West London (2 30 P.M.), London Throat (9 30 A.M.), Royal Free (2 P.M.), Guy's (1 30 P.M.), Children, Gt. Ormond street (9 A.M.), St. Mark's (2 30 P.M.)

TUESDAY (8th).—London (2 P
Thomas's (3 30 P.M.), Guy's
minster (2 P.M.), West Lc
2 P.M.), St. George's (1 r
(2 30 P.M.), Cancer (2 P.M.),
(9 30 A.M.), Samaritan (9 30
square (9 30 A.M.), Soho-squ
London Throat and Ear (
(9 A.M. and 2 P.M., Ophth
Central London Throat and

Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (10th)—St. Bartholomew's (1 30 P.M.), St. Thomas's (3 30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St

(Minor, (9 A.M., Major, 2 P.M.).

FRI

), London (2 P.M.), Middlesex
University College (9 15 A.M.),
(1 P.M.), St. Mary's (10 A.M.),
Guy's (1 30 P.M.), Children, Gt.
West London (2 30 P.M.)

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a m. by Steward's Instruments.)

THE LANCET Office, June 3rd, 1909.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rain fall.	Solar Radio in Vacuo	Maximum Temp Shade	Min Temp.	Wet Bulb	Dry Bulb	Remarks.
May 28	29 83	WSW	0 17	123	60	43	52	53	Fine
" 29	29 94	W.	0·03	123	65	51	54	[illegible]	Cloudy
" 30	30 27	W.	...	125	71	50	53	58	Fine
" 31	30 14	W.	...	129	75	54	53	59	Cloudy
June 1	29·83	E.	...	93	65	63	60	65	Overcast
" 2	29·90	N.E.	0·32	60	54	51	50	51	Raining
" 3	30 07	N.E.	0·03	74	55	43	47	51	Cloudy

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An Address

ON

THE MODERN TREATMENT OF FRACTURES.

Delivered at the Annual Meeting of the Cardiff Medical Society on June 4th, 1909,

By JUST LUCAS-CHAMPIONNIÈRE,

HONORARY SURGEON TO THE HÔTEL-DIEU, PARIS; MEMBER OF THE FRENCH ACADÉMIE DE MÉDECINE; PRESIDENT OF THE INTERNATIONAL SOCIETY OF SURGERY.

GENTLEMEN,—I no doubt owe the honour you have done me in asking me to deliver an address on this occasion to the fact that I am an old student of the British universities. When I was a young man, soon after completing my studies in Paris I paid a visit to this island, early enough to see the surgical science of Lister at its dawn, and I am happy to-day to remember and to state that since that time I have been among those who have always rendered just homage to the science of your country. This is not because, like certain philosophers, I think that Science has no country; on the contrary, I believe that we ought to be as proud of our country's men of science as of our great soldiers. But the man of science is fortunate in that he is imbued with an additional sentiment added to the love of his own country, and that is a sincere admiration and brotherly sympathy for all those who in foreign countries have enriched the science to which he himself has devoted his life.

The best way of proving sympathy and sincere admiration for a scientific association which meets to celebrate a long and laborious past is to present to it a review of a subject to which the speaker has for many years himself given much attention. I propose, therefore, on this occasion to speak on the modern treatment of fractures, not only because I believe firmly in the efficacy of a mode of treatment which I myself introduced, *but also because the profession in this country is* still under the influence of the righteous emotion caused in the surgical world by the unjust accusation to which your compatriots were subjected. That it is possible for such injustices to occur is due not merely to the existence of a feeling unfriendly to the medical profession, but also to the important changes which the method of treating fractures has recently undergone, changes not fully known to the medical world, and still more imperfectly known to the non-medical public. The importance and gravity of the subject will, I hope, interest you sufficiently to induce you to forgive any deficiencies in my address.

TREATMENT BY REDUCTION AND SPLINTS.

The truth is that within recent times the classical treatment of fractures has been undergoing a radical change. It is a remarkable fact that the treatment of fractures, the beginnings of which go back so far into the mists of time that we have no idea of the era when splints and treatment by immobilisation were invented, has always rested upon the same data and upon the same principles ever since the first beginnings of the science of surgery. Read any treatise on fractures, from the most ancient to the most modern, from Hippocrates to Ambroise Paré, to Dupuytren and Malgaigne and Hamilton; read all the encyclopædias, even the titles of which I cannot enumerate—every one of them will tell you that movement is the enemy of the formation of callus and of bony repair; that it is an obstacle to the formation of callus, so that defective consolidation, whenever it is observed, is attributed to movement having been permitted. In order to obtain the union of fractures all practitioners have taken account of one fact alone—that a bone is a rigid lever. When it is broken the fragments must be fixed in the position of the normal bone and immobilised. To reduce and to immobilise are the only measures upon which attention is riveted.

Ambroise Paré, the first surgeon who boldly relied on his own personal observation, whose imagination was always alive to find out something new, often hesitates between his own imagination and the ancient traditions as to fractures, but he ends up always with remarks which impel him to greater exactness and greater violence to ensure the reduction of fractures and their maintenance in position. Beyond this he gives information only as to the drugs which might favour the production and the union of bone. With the exception of this last point, the aims of Dupuytren, of Malgaigne, and of Hamilton are exactly the same, although, like all nineteenth century writers, being convinced that they possess much more accurate views on anatomy and physics than the older writers, they apply procedures for reduction and maintenance still more rigorously, and invent new details in the methods of reduction and in splints. The strange thing is that they are so persuaded that they really reduce fractures, and that they favour union by immobilisation, that they pay little or no heed to clinical observation. It does not occur to them to try any other means. If their results are bad, their only thought is to attribute the failure to the inadequacy of the means of reduction and immobilisation which they had adopted. Here and there in their writings on fractures it can be clearly perceived that some great observers were disturbed by facts which, as it were, struck them in spite of themselves. Malgaigne had, indeed, seen untoward results due to muscular contraction in fractures of the lower limb, and he thought that in the inclined plane he had found a means of preventing them. Hamilton, speaking of fractures of the elbow, recommends that the fragments should be immediately mobilised at the risk of not obtaining good adjustment, because it is essential to prevent ankylosis. Velpeau recommended that in fracture of the radius the splints should never be tightly applied, for fear of causing permanent ankylosis. The doubts expressed by these surgeons show that the evil consequences of immobilisation could not have been altogether unknown to them, yet not one of them was bold enough to run counter to accepted opinions; all soon returned to the employment of the most complete possible immobilisation after the most violent reduction. We find the greatest surgeons devising most extravagant appliances, such as Dupuytren's splints for fracture of the radius, the action of which is utterly futile, because, from a *point d'appui* in itself detestable, it has to oppose the contraction of the muscles and the cicatricial contraction at the site of the fracture; or again, that apparatus of Desault for fracture of the clavicle, which recalls the "Maiden," the torture jacket of the Middle Ages, under which the contraction of the muscles renders certain in the future the maximum possible deformity owing to overriding of the fragments of the bone.

Every one of these authors, not excluding even those who hesitated, all come back to the formula which Malgaigne very frankly placed at the head of his great treatise on fractures: "The treatment of fractures can be summed up in two great indications: Reduce the fracture and keep it reduced until consolidation is complete." The nineteenth century saw the birth of a considerable number of works on fractures; all of them rely, above everything else, on physical or geometrical theories of the mechanism of fractures; if they discuss treatment at all, it is only to describe new means for the forcible reduction of fractures and their maintenance in position.

TREATMENT BY IRREMOVEABLE APPLIANCES.

An enormous part in treatment of this kind has been played by a new invention—that of irremoveable apparatus. This method of treatment is extremely valuable in certain cases, but the infatuation for these appliances has been such that in a very large number of cases they are the cause of the very worst evils that can be produced by immobilisation. To realise the regrettable results of this absolute immobilisation upon the nutrition of the limbs we must come down to our own times. The problem presented by the treatment of fractures, which used to be "reduce, and maintain relative immobility," has now become "reduce, and enforce absolute immobility of one or several segments of the limb without regard to the duration of the immobilisation."

THE ORIGIN OF MODERN TREATMENT.

It was perhap [illegible] e evil produced by the abuse of [illegible] contributed to bring about an [illegible] ty for a change in treatment. S [illegible] ned, it was the excess of the evil which, more than any other fact, particularly struck me. The excess of the evil opened my eyes to the inconveniences of immobility, and to the part which mobility ought to play in the repair of fractures. This observation it was which emboldened me to make mobilisation a leading principle in the treatment of fractures. The success of the treatment has been due to the very numerous clinical observations which have demonstrated the truth of the principle. But to bring about an abrupt change in treatment, and to replace a bad by a good line of treatment, it is not alone sufficient for observers to recognise the existence of the evil. Our art must advance by slow steps, and it is well to learn how a change which upsets all the oldest principles could be made, how it could even enter the mind of an observer, and how it could be adopted by the majority of surgeons accustomed to another practice, which, although it presents many disadvantages, yet has for centuries rendered services at once incontestable and uncontested. This progress in therapeutics must be brought into relation with the great scientific changes by which modern surgery has been created. The paradoxical idea of introducing movement as a part of the treatment of fractures, and its acceptance by the medical public, must in fact have owed its development and its success to some very strong reasons.

Before making known the results of my own observations and experience I long meditated upon the facts and I can assert that I only made up my mind to publish conclusions contrary to all received ideas and to initiate a revolution in treatment, because I was witnessing and taking a part in the transformation which surgery was undergoing. Pasteur and Lister had so completely upset all our earlier notions that their example forbade any hesitation in submitting the best established scientific and practical theories to severe criticism. They inspired me with the courage which alone could lead to useful discoveries and transform what it is most difficult to transform—practices resting upon most ancient customs, such as are to be described by the word "routine." My assertions as to the remote consequences of the discoveries of Lister may be considered exaggerated, yet I am profoundly convinced of this indirect influence of a great piece of scientific work, and more especially of a piece of work which brought about a radical transformation not only in scientific theory but also in the mechanical execution of the details of the surgeon's own acts, a change which completely upset his habits in practice. This extraordinary piece of work which upset all our habits and destroyed the whole edifice of our surgical education, produced in us such an aptitude for change that I also found it possible to accomplish another piece of destructive scientific work, which, while it has its own dangers, can alone lead to great transformations in science and in practice. The relation of the change which I have advocated to our older education is in fact very singular. A distinguished American surgeon, Caldwell, of Freeport, who had assiduously followed my practice at the Beaujon Hospital and had watched my treatment in the various types of fractures treated there, said in summing the matter up: "It is a very strange thing, after spending all one's life as a surgeon and following scrupulously the precepts of surgery, to realise that one has been steadily deceived, and that in a practical matter so well established as the treatment of fractures one has been doing evil where one believed that one was doing good."

Is not this the very same idea that Sir William Bennett has sought to express in the introduction to his "Lectures on the Use of Massage and Early Passive Movements in Recent Fractures"?

> Indeed, it cannot but excite surprise in the mind of an intelligent person that the stiffness, pain, and other disadvantages which so constantly follow the treatment of fractures upon classical lines, should have been countenanced for so many years when they can, in the majority of cases, be entirely obviated by a treatment so simple as that described in the following lectures.

To break so completely with acquired habits, even when the change is the consequence of numerous positive observations, is in truth a revolution, and revolutions are only made when the reasons in their favour are many and strong. The transformation wrought in our scientific mentality, giving it a degree of boldness which might seem to be temerity, undoubtedly had a leading part in influencing my course. But the advance of surgery is always complex, and it must not be forgotten that other considerations influenced my mind, leading me to study the fundamental influence of movement on the vitality and on the regeneration of organs damaged or destroyed by injury. It is no doubt true that these considerations also have no very direct bearing, but they are the consequence of the advance of science and of the contemporary progress of medicine and physiology. When the study of many of the empirical methods of massage and gymnastics was commenced in France the study of movement was at the same time founded and developed. In this study two great French men of science were the chief leaders. Marey, by his methodical and in a certain sense mathematical study of all movements, taught us to register and reproduce them in pictures which were at once true and expressive; while Lagrange introduced medical analysis into the study of functional and gymnastic movements by applying the physical ideas of Marey to sport and training. It is, at any rate, the fact that my acquaintance with these two men of science contributed to lead me to study movement from the point of view of its physiological and pathological consequences in fractures and in injuries of the joints. Since that time a considerable number of men of science, teachers of gymnastics, masseurs, and others have carefully studied all the scientific facts bearing on the subject, and the present position of what is called physio-therapy is the result of a series of quite modern investigations.

The study of movement from the educational and therapeutic points of view seems to have originated in France during the last century. The aims of the gymnastic methods of Amoros and Laisné were at first educational, but their application in our country long remained very restricted, whereas in England and in America the love of sport gave origin to important empirical ideas with regard to movement and to training. It was, however, in Sweden and Norway especially that the study of movement from the educational point of view and the development of the art of massage were given a truly scientific character, and was controlled by men of science and doctors, while in every other country it remained the property of empirics. We must, in fact, not fail to recognise that the share of Sweden and Norway in the evolution of massage and gymnastics has been scientific. It must not be supposed that the fundamental difference between the system of gymnastics known as Swedish and other systems lies in any actual difference in the movements. The merit of the Swedish system of gymnastics lies in the application of scientific rules and of a definite method. The cause of its success is to be found in this methodisation. Various very different forms of movement are capable of giving equally successful results if they are measured and if they are performed on a regulated system. Again, it is the method or system which has rendered it possible to use this therapeutic procedure in many very different forms of education and treatment.

TREATMENT BY MASSAGE AND EARLY MOVEMENT.

With regard to the treatment of fractures which I advocate, I will say this, that my success has been due, more than anything else, to the introduction of a strict method of applying special forms of movement to the treatment of fractures. It is the method which has rendered possible the generalisation of this therapeutic measure and its application to all forms of injury of the skeleton and of the articulations. It is not unprofitable thus to recall the spirit of the method which served as a clue to guide me in working out a therapeutic revolution, and it is, in fact, true that each successive step can be traced in the history of my various trials and investigations, and in the order in which my various applications of the method succeeded one another. I began by lessening the degree of immobility; next I did away with it altogether; next I began to use movements at an early stage; then I began to use them immediately after the injury; finally, I made use of massage—that is to say, of a method of mobilising the muscles, the joints, and even the bony fragments. It was necessary to define the indications and the limits of this special form of movement. Thus it was that years of observation and experiment led me to establish the bold practice of methodical therapeutic mobilisation.

It is a singular thing to realise that it was through my own detailed studies that I did this, and that apart from my personal researches nothing was published before the appearance of the description of my method. The only instance in which massage had been used for a fracture at about the time at which I developed a complete method was for fracture of the patella; it was so used by Metzger, who apologised for applying massage to a fracture, on the ground, as he said, that in this particular fracture bony union could not be obtained. The same masseur, in discussing sprains of the ankle, stated specifically that massage should not be used if the malleolus was fractured. At the very same period I showed, in opposition to this, that massage favoured the production of new bone, and later the beautiful experiments of Cornil on animals proved that this result of the mobilisation of the fragments was invariably to be observed, and in young animals was too great. Having carefully studied all earlier observations which might have served as precedents for my method of mobilisation and massage, I have satisfied myself that none such existed.

SUTURE OF BONES.

Since my method was devised and generalised two important means for the study and the treatment of fractures have seen the light of day; these are suture of bones and radiography. I do not wish to decry immediate suture of *fractured bones. When Sir Hector Cameron performed the* first suture of the patella, when Lord Lister published his articles on the subject, I was the first to follow their example. I believe, indeed, that I am to this day the surgeon who has performed the operation of suture of the patella in a greater number of cases than any other in the world. I believe also that there are few surgeons more familiar than I with the suture of bones in general. I consider that most valuable results can be obtained from immediate suture performed antiseptically. But the question is, Does the suture of bones used as a general method for treating fractures in the way recommended by Arbuthnot Lane in England, Lambotte of Antwerp, Tuffier of Paris, and many other surgeons, deserve to be generalised and preferred to every other method? Without denying its conspicuous advantages, I must say that for my part I do not think so. I believe that it is a sort of continuation of the old method of reduction and fixation of the fragments. It would seem, indeed, to be the ideal of reduction followed by immobilisation, and has, in fact, been held to be the most perfect realisation of the old precept as to the treatment of fractures. It is certain also that the more the method of mobilisation is developed the fewer will be the occasions on which immediate suture will be performed. If, as I have shown, a small amount of movement assists the process *of repair* at the site of fracture, *it is quite evident* that suture cannot be the ideal mode of treatment, for it ought, if properly performed, to do away with all movement of the fragments. I can at once give a practical example of this; suture of the olecranon is undoubtedly the simplest of all operations of the kind. I have done it for old fractures inadequately treated by other surgeons. I have never had occasion to do it for recent fractures properly treated by my method, because perfect recovery is obtained within a fortnight without operation.

RADIOGRAPHY.

Since I began the treatment of fractures by movement, light has been thrown on the study and the treatment of fractures from another new and important source; this is the application of radiography to the examination and to the treatment of fractures. Although I am the author of an essay on the errors of radiography, I appreciate the import*ance of radiography in regard to fractures; but I hold* that on the one hand radiography cannot dispense us from the study of the symptoms of fractures, and on the other that it cannot warrant an untrained person replacing a doctor in making a diagnosis and in treating fractures. Radiography gives us only a picture of the projection of a bone, and is subject, therefore, to many more drawbacks than ordinary photography by reflection. Consequently it is necessary very critically to examine images which *for a multitude of reasons may give misleading pictures* of the site of the fracture. It is necessary to learn how to appreciate the real value of a radiogram; only after much experience can one become a good judge of radiograms of fractures, even when these radiograms have been well taken. A radiogram which is badly taken may give rise to a multitude of errors of representation which ought to be known and which produce many mistaken ideas in the mind of the non-medical public. Subject to *these two reservations, radiography is a marvellous aid in the* diagnosis and in the treatment of fractures. From this time forth the surgeon ought never to fail to use it whenever it is possible to do so. Nevertheless, the value of the help it can give varies very much. In the immense majority of cases there is very little chance that abstention from resort to radiography will prevent us from arriving at a correct diagnosis and the institution of proper treatment; it is essentially necessary in rare cases only. In the majority of instances it is only an additional security, giving a useful assurance to us and to the friends of the injured person an interesting demonstration and a document for future use.

Radiography has afforded me very special help in all that concerns my own standpoint with regard to the treatment of fractures. I have long maintained that surgeons who supposed that in reducing fractures they adjusted the bony fragments end to end and restored them to their normal position were deceiving themselves, and that in spite of faulty position, in spite of a certain degree of persistent overriding, the function of the limb again became perfect. The object which we must have in view in treatment, then, must not be this ideal juxtaposition. Radiography has, in fact, surprised surgeons very much by showing them fractures well and soundly cured, with excellent functional results, but with considerable bony displacement. Very often, indeed, surgeons not fully acquainted with these matters, and still more patients, on examining such radiograms have been led to believe that errors have been made, even when the function of the limb is as perfect as the *nature of the injury renders possible. What we are thus* taught will prove very valuable in establishing a modern treatment of fractures.

THE MODERN METHOD.

After this very short summary of the history of the treatment of fractures down to the present day, let me next explain my conception of what this treatment by movement is, and state the new facts observed by me which give a *revolutionary character to my method. A certain amount of* movement between the fragments ensures the best bony repair; this is the corner-stone on which my method is based. Every movement which is not injurious by reason of its amplitude favours repair, but it must be understood that the movement must be measured—dosed, so to say. The movement which is necessary for the repair of the bones is not less necessary to the vitality of all the constituent parts of the limb, and particularly for all the organs of motion—*joints, muscles, ligaments,* and tendons. *The relation which* the movements have to pain experienced by the patient is not such as is commonly believed; certain kinds of movement help to relieve the pain. Immobilisation, which seems to relieve, only gives momentary relief, for it prepares the way for other pains in the future. Mobilisation, gently performed as early as possible after the injury to the bones, is the method which best promotes disappearance of the pain. Massage affords the best form of movement. By simple mobilisation, by massage, and even by his own examination, the surgeon ought never to cause pain, for the pain so caused leads to fresh pain and produces complications.

The reduction of a fracture is only a relative necessity; it should be resorted to only in certain deformations of the axis of the bone which are incompatible with the function of the limb—lower third of the leg, shaft of the humerus. In a large number of cases the manœuvre of reduction is useless; *it is useless in all fractures of the radius* with impaction and moderate deformity, in most fractures of the upper extremity of the humerus, and in the great majority of fractures of the neck of the femur. In all fractures in which the displacement is due to muscular contraction any attempt at reduction is useless, as in fracture of the clavicle, of the olecranon, and many fractures of the malleoli. After massage the fracture is either spontaneously reduced, as in the case of the olecranon, or is very easy to maintain reduced, as in the case *of the clavicle and malleolus.* Those conditions which favour the vitality of the limb are all more important than those which produce immobilisation of the fragments. The fact that shortening has not the injurious influence on repair which it is said to have should not be lost sight of when considering displacement. A moderate degree of shortening which does not change the static position of a limb is favourable to repair. The muscles surrounding a shortened lever act more rapidly and better than upon a lever on which they are stretched. A certain amount of shortening ought not to be interfered with, as it is favourable to the repair of a broken bone. Massage has so great an effect in stimulating bony secretion at the site of fracture that in children, in whom the activity of the production of bone is great, massage ought not to be applied, save with great moderation, for fear of provoking excessive osseous secretion—in fact, a tumour. In their case simple mobilisation is often sufficient. Mobilisation from the beginning, within the first 24 or 48 hours, is of capital importance, and at this stage movements of very small amplitude are sufficient; passive or induced movements are *the best at the beginning*. *Active or spontaneous movements* ought to be measured and directed by the surgeon; to allow the patient to follow his own fancy with regard to active movements is dangerous—all the more dangerous because with my method the pain caused by movement disappears from the beginning, and therefore does not limit the untimely action of voluntary movement. The pain experienced and the degree of sensitiveness of the callus are the best guides in directing and in permitting movement by the patient. The secondary treatment of fractures and their supervision ought to be prolonged. Functional use of a fractured limb is the condition most favourable to its regaining active power. Even during this secondary period everything likely to irritate the region of the callus ought to be avoided. It is useless to cause pain by movements exaggerated in amplitude or by resort to forcible manipulation.

While before my investigations the surgeon contented himself, after having reduced a fracture, by awaiting cure, the modern surgeon should play a much more active, much more personal, and much less simple part. He ought not only to diagnose the fracture but ought to make its exact nature visible by a radiographic picture, and then take action to obtain not only solidity of the limb but also to restore its suppleness, its regularity of action, and its power. He must not merely await the solidification of the skeleton. Moreover, his treatment must vary a great deal according to the age, the sex, the variety in the site of the fracture, the kind of fracture of the limb, the general or local health of the patient, his occupation, and according also to the circumstances under which he is called upon to act, for if he cannot ensure proper personal supervision of mobilisation, massage, and the supervision of the movements, it may happen that he will be compelled to replace an excellent method of mobilisation by a moderately good method of suture or absolute immobilisation. The surgeon needs a great deal of experience to conduct the treatment of a fracture in the best way, and I cannot help asking with some anxiety how a non-medical tribunal is to form a judgment on questions so complex should the patient and his medical attendants cease to be in accord. The situation is complicated. Well-to-do people bring actions against surgeons because they continue to experience pain or stiffness after a fracture; workmen reproach the surgeon because he cures them too well, inasmuch as by causing the disappearance of all secondary pain, accidents are not followed by the permanent infirmity for which they hoped. The whole history of the surgery of fractures cannot be related in an address which is already too long, but I shall have succeeded in my purpose if I have made plain to you to how great an extent the duty of the surgeon has become, difficult indeed, but effective in this matter of fractures. Instead of waiting for the injured person to cure himself, we can cure him and quickly restore to him the use of his limb.

It is a laborious task, more difficult than the banal application of irremoveable appliances; it is still insufficiently understood by the profession, and altogether unknown to the *public*. *But I am proud to think that in your country* it has met so favourable a reception that you have been willing to listen to the exposition of the subject which I have to-day offered to you as a tribute of fraternal homage.

A CANCER CRUSADE IN RUSSIA.—The annual meeting of the Anti-Cancer Association was held in St. Petersburg on May 16th, under the presidency of Dr. G. E. Kein, who stated that every sixth death in St. Petersburg of persons over 54 years of age was from cancer. The first branch of the association has been established at Yalta. A cancer laboratory has been opened in St. Petersburg, as has been already announced in our columns. A special committee is endeavouring now to obtain funds to found a cancer hospital, and thereafter a Pan-Russian Cancer Institute. A special census of cancer cases in St. Petersburg will be made in 1910.

ABSTRACT OF

An Address

ON

THE DIAGNOSIS OF SYPHILITIC DISEASES OF THE NERVOUS SYSTEM.

Delivered at the Clinical and Pathological Section of the Birmingham Branch of the British Medical Association on April 30th, 1909,

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GENTLEMEN,—Although syphilis is directly or indirectly responsible for a large number of organic diseases of the nervous system and it is a useful practice based upon the results of experience to treat a large number of cases of disease of the nervous system by antisyphilitic remedies, yet it is well to bear in mind that in such a widespread disease as syphilis, *coincidence* as well as *cause* is of very frequent occurrence. Therefore, in making a diagnosis the question has to be determined whether the fact that the patient has had syphilis, or even presents at the time of examination signs of active syphilitic lesions, is a coincidence or bears a direct or indirect causal relationship to the nervous symptoms for which he is consulting you. In many cases, *especially in* women, there may be no history of syphilitic infection and no signs on the body, and yet the character of the disease may clearly point to the possibility or *even the certainty* that it is of syphilitic origin; or it may happen that without a history or signs of syphilis a nervous affection may arise in an individual, which after antisyphilitic treatment ends by cure, arrest, or amelioration, but it does not necessarily follow that the disease was syphilitic, for we do not know what would have happened in the way of improvement if no drugs had been administered; in fact, we cannot be sure whether it was an example of *coincidence* or *cause*.

A person suffering from an affection of the nervous system, whose blood gives a positive antigen reaction, is much more likely to be suffering from a syphilitic affection than one who has had syphilis but whose blood does not yield the reaction, for it is an indication that the syphilitic virus is still active, and therefore capable of producing true syphilitic lesions of the nervous system. An examination of the cerebro-spinal fluid in such a case will afford most valuable evidence not only as to whether the disease of the nervous system is post-syphilitic or not, but whether it is one of true syphilitic inflammation or of a degenerative parasyphilitic nature. Such evidence is of vital importance, for in the case of the former mercury, rapidly but judiciously administered, may be followed by a complete cure, whereas in the latter it will do more harm than good. I will cite a case that was recently under my care.

A woman, aged 34 years, was admitted to Charing Cross Hospital said to be suffering from tabes. She had shooting pains in the legs, unsteadiness in gait and station, a feeling of the soles as if walking on cork, unequal pupils which reacted sluggishly to [illegible] modation, [illegible] pain and cramp in the muscles of the legs, [illegible] anæsthesia on the legs, and a belt of tho [illegible] sensation. After inquiring into the histo [illegible] suffered with headache and squint, that the knee-jerks absent on admission had returned a few days later, I came to the conclusion that this woman, with a probable duration of infection of not more than four years, was suffering really from pseudo tabes, the result of syphilitic meningitis, especially as she told me that she had had a little stiffness in the neck, and I then obtained *Kernig's sign*. Lumbar puncture was performed, and 390 lymphocytes per cubic millimetre were found—an enormous number for tabes dorsalis. This large number of lymphocytes could only be accounted for by a widespread active gummatous change in the meninges. She was placed on mercurial inunction. The symptoms began to clear up rapidly and a fortnight later the lymphocytes had fallen to 70 per cubic millimetre, and the fluid this time was tested by the Wassermann method, and found to give a negative reaction for both antigen and antibody. Unfortunately, the blood was not tested on this or future occasions. A fortnight later the cerebro-spinal fluid was examined and only 20 lymphocytes per cubic millimetre found, the patient being almost well. A fortnight later still, there were no lymphocytes, and the fluid was negative to the Wassermann reaction. The patient was quite well; the pains, anæsthesia, and unsteadiness had entirely disappeared.

It is of the greatest importance, therefore, to be able to decide whether a syphilitic patient is suffering from the immediate effects of the syphilitic virus on the enclosing, supporting, and vascular structures with *secondary effects* on the nervous structures, or from the remote effects of the syphilitic poison upon the bio-chemical stability, and, therefore, durability of the nervous elements themselves. The sooner the nervous affection follows the primary infection the more likely it is to be syphilis of the nervous system; *the longer the interval the more likely it is to be parasyphilis*, but exceptions occur, especially to the former rule. It is much more common for tertiary syphilitic lesions of the nervous system to arise very long after the primary infection than for tabes dorsalis or general paralysis to occur within a few years of infection.' There is no period from the appearance of the primary sore onwards to the end of life in which true syphilitic lesions of the nervous system may not occur. It is very unusual for a generalised syphilitic meningitis to commence after the lapse of five years from primary infection; quite one half of the cases manifest symptoms within the first 18 months, in some the symptoms are obvious with the appearance of the roseolar rash, and a few cases have occurred when the primary sore was yet unhealed—a very different order of things to tabes dorsalis and general paralysis, for in these diseases it is very rarely that symptoms occur in less than four years after infection, and the average time is ten years.

In the case of active syphilitic meningitis, arteritis, and gummata, all of which conditions may occur simultaneously, successively, or progressively over the whole cerebro-spinal axis, the blood will most probably give a positive antigen reaction, *the cerebro-spinal fluid will exhibit a great increase* of lymphocytes and albumin, but it may give neither antigen nor antibody reaction. The administration of mercury will cause the disappearance of the antigen serum reaction, the disappearance of the lymphocytes from the cerebro-spinal fluid, and the cure, amelioration, or arrest of the symptoms if the disease has not been allowed to progress so far as to lead to thrombosis of vessels and destructive ischæmic softening of the cerebro-spinal nervous substance. In the case of para-syphilis, especially general paralysis, there is a different reaction: the blood serum gives the antibody reaction; the cerebro-spinal fluid both in tabes and general paralysis exhibits lymphocytes and shows the presence of albumin.

CLINICAL DIAGNOSIS.

Neurasthenia.—A neurasthenic, who has had syphilis, and who is suffering with irritability of temper, headache, insomnia, lassitude, loss of memory, who has occasionally difficulty in finding words to express his thoughts, complaining of migrainous or vertiginous attacks and of various cutaneous sensory disturbances, in the form of anæsthesia or paræsthesia, who is hypochondriacal and depressed, who has a mortal dread of softening of the brain, from which some friend of like habits and history has suffered, whose knee-jerks are exaggerated, and whose physiognomy exhibits a wearied, hypotonic, anxious condition, with lack-lustre eyes, will naturally arouse in the mind of the practitioner the possibility of the patient being in the prodromal stage of general paralysis. Examination of the pupils and of the cerebro-spinal fluid with negative results, in conjunction with the absence of any signs of dementia, will usually enable him to decide in favour of neurasthenia and give a favourable prognosis.

[illegible] Pseudo general paralysis (diffuse [illegible] termed *syphilitic* [illegible] unfortunate term [illegible] philitic origin and [illegible]. Diffuse syphilitic brain disease is not a primary neuronic decay, but a widespread chronic inflammatory process affecting the enclosing, supporting, and nutrient structures, due directly to the action of the syphilitic virus; instead of occurring, as a rule, many years after infection, the most serious cases commence within the first four years after infection, therefore the average age incidence is some years below that of general paralysis. The early diagnosis of *diffuse cerebral syphilis* is of the most vital importance, for it is amenable to antisyphilitic treatment, which if adopted in its early stages arrests or ameliorates, and occasionally, but rarely, a cure may be hoped for. It is therefore essential to know what are the diagnostic differences of general paralysis and diffuse cerebral syphilis. It is rarely that true general paralysis is associated with permanent coarse obtrusive paralyses; in fact, the term "paresis" expresses the condition more truly. *On the other hand, diffuse syphilitic brain disease is very* liable to be followed by paralyses of all kinds.

[Dr. Mott [illegible] *of this* form of de[illegible] general paralysis. [illegible]

The dementia of syphilitic brain disease is partial; it is unequal and elective in its attack, it compromises certain forms of psychic activity, memory, association of ideas, energy and capacity for mental work, rather than diminishing intelligence as a whole. It does not alter so profoundly the character and personality of the individual, nor in *the great majority of cases does it destroy the patient's idea of his past* and present state, nor that of orientation in time and space. He still possesses the *auto-critical* faculty, and is more or less conscious of and disturbed by his mental deficiency. The accompanying bodily troubles are coarse and obtrusive and due to focal disseminated lesions in the brain and spinal cord, causing apoplectic and epileptiform seizures, as well as various paralyses and sensory troubles. The evolution of general paralysis is slow, insidious, and progressive towards marasmus and death. Syphilitic dementia, especially if it be treated [illegible] in a state [illegible]

Art[illegible] rtant factor in the production of arterio-sclerosis, especially cerebral arterio-sclerosis. Consequently a patient who has had syphilis may [illegible] which the vesse[illegible] *and kidneys* in [illegible] the blood may arise in consequence of the latter affection; owing to the renal inadequacy, and probably also the diseased conditions of the vessels of the brain, uræmic symptoms may arise in a person who is suffering with mental symptoms caused by the disease of the cerebral vessels and the altered conditions of the blood. The symptoms of uræmia—namely, headache, pyrexia, twitchings, epileptiform seizures—may simulate the symptoms and seizures of general paralysis. There are, however, points of difference which will enable a diagnosis to be made. In such a case examination of the heart and arteries and the urine would afford information. The pupils in uræmia may have a sluggish reaction to light, but they are rarely unequal or irregular. Very probably examination of the fundus will show retinitis, hæmorrhages, and arterio-sclerosis of the retinal arteries, causing thickening of the walls, which appear *like silver wires; consequently the veins as they pass* over the thickened arteries often show a kink. The patient is usually over 50 years of age. The cerebral symptoms are often characterised by a progressive dementia and paralysis, but there are many points of difference, both in the mental and motor symptoms.

[Dr. Mott here said that the dementia of cerebral arterio-sclerosis was a partial, unequal loss of mind. The patient became irritable, suspicious, and even dangerous to himself and others, but, unlike a general paralytic, he retained his notions of personality and the faculty of auto-criticism, and was more or less conscious of his loss of memory and mental enfeeblement.]

Chronic alcoholism.—C[illegible] in which there is a history or si[illegible] difficulties in the matt[illegible] reasons: first, because [illegible] *the disease take to drink. The symptoms they present* are largely due to the effects of the intoxicant, and they are certified and sent to the asylum, where the diagnosis of *mania a potu* is made. The true nature of such a case declares itself after the effects of the alcohol have had time to wear off. Hallucinations, especially of vision and of a terrifying nature, are common in alcoholism; they are not common in general paralysis uncomplicated by alcoholic intoxication. The dementia of alcoholism is characterised by the predominance of the moral affective defects over the intellectual, by a degradation of the ethical sense, deterioration of will, and the tendency to delusions of persecution, jealous suspicion, and violent motor reactions, rendering them dangerous to themselves and others. The psychic activity is confused rather than destroyed. There is deficiency rather than absence of memory.

Polyneuritic psychosis (*Korsakow's disease*).—The clinical picture of a severe case of the disease is not unlike that of general paralysis in its final stages. The patient, prostrate, bedridden, and emaciated, with contracted limbs and suffering with bedsores, lies oblivious to her surroundings; roused to reply to questions, only incoherent responses are obtained. Such a condition may well be termed *pseudo-general paralysis*. Frequently a definite diagnosis cannot be made unless the case be watched; if this be done occasionally at intervals the mind appears to be clear in Korsakow's disease. The definite signs and symptoms of polyneuritis may be present. When the symptoms of Korsakow's disease are confined to loss of memory and mental confusion the diagnosis is more difficult. Auto-criticism may still be present in the patient suffering with Korsakow's disease; consequently, when confronted by her mental shortcomings she betrays astonishment and even alarm in her facial expression. The general paralytic, having lost the faculty of auto-criticism, is self-satisfied, and the expression is one of foolish contentment or of apathetic indifference. Hogarth, in the scene of "The Rake's Progress at Bedlam," nearly one hundred years before the classical description by Bayle, portrayed the general paralytic with his grandiose delusions and lack of auto-criticism. In the picture we see the man, partly naked, seated on a stool, a paper crown on his head, a wooden sceptre in his hand, and a foolish, self-satisfied mock majestic smile on his countenance. The cerebro-spinal fluid in Korsakow's disease would be negative as regards the antibody reaction and lymphocytosis; therefore in all doubtful cases lumbar puncture should be performed and the cerebro-spinal fluid examined.

Dementia præcox.—The age, mode of onset, and evolution of this disease are unlike those of general paralysis, except the juvenile form. In 80 per cent. of the cases of dementia præcox the mental symptoms occur before the age of 25. There is usually a strong hereditary history of insanity, and no history or signs of congenital syphilis. General paralysis is a disease which, on an average, does not commence until ten years after infection; therefore the most frequent period for general paralysis to occur is not adolescence, but the prime of life. Occasionally, however, I have seen young women admitted to the asylum with dementia paralytica in whom the mental affection commenced at a relatively early age. Inquiry into the history often shows that they were prostitutes or had come from a refuge home, or a history of congenital syphilis was either certain or probable. Dementia is not the earliest sign of this affection, but hallucinations and fragmentary delusions; the Argyll Robertson pupil is not present, the pupils are not unequal, and, as a rule, not irregular. If there is any doubt the diagnosis can at once be settled by examination of the blood and cerebro-spinal fluid by the Noguchi and Wassermann methods, and by cyto-diagnosis of the cerebro-spinal fluid. 20 successive cases of dementia præcox were examined by Mr. G. H. Harper-Smith and Dr. G. H Rae Gibson in the laboratory, and in every instance the result was negative.

Disseminated sclerosis.—The typical insular sclerosis of young adults should not be mistaken either for general paralysis or multiple syphilitic brain disease, although cases of multiple focal patches of sclerosis, the result of syphilitic arteritis, thrombosis, and ischæmic softening, in many respects resemble that form of insular sclerosis the cause of which is at present unknown. The difference in the clinical symptoms and the evolution of the disease to general paralysis in most cases suffices for a differential diagnosis; but if there be any doubt, examination of the cerebro-spinal fluid and blood with negative results will serve to exclude general paralysis.

Cerebral tumours.—Cerebral tumours without motor or sensory troubles are not infrequently sent to asylums and, according to my experience, they are as often as not called "general paralytics." Examination of the fundi in most cases would have revealed optic neuritis, a condition never found in general paralysis, although it may occur in syphilitic brain disease; but as a rule, according to my experience, syphilitic gummata and syphilitic meningitis do not produce the same degree of swelling of the disc that non-syphilitic tumours do; very much, however, depends upon the situation and the rapidity of growth of the tumour. Large slow-growing tumours of the frontal lobe occurring in men at the prime of life, and with a [illegible] drink, may be especially difficult to [illegible] slow demential form of general paralysis; especially is this so when the tumour destroys the left frontal lobe and irritates the adjacent motor cortex, as it would cause speech affections from the involvement of Broca's convolution and epileptiform seizures. I saw recently a woman in one of the London County Asylums and had her transferred to Charing Cross Hospital. Mr. E. T. Collins found five diopters of swelling in each disc. After a course of mercurial treatment the swelling went down rapidly to two diopters, and from being unable to read large print, she could read quite small print, the headache ceased, and the vomiting no longer occurred. The cerebro-spinal fluid of this case did not give the Wassermann reaction, although it contained a considerable excess of lymphocytes; but then we know that in only about 25 per cent. of cases of syphilitic brain disease does the cerebro-spinal fluid give a positive antibody result. [Dr. Mott here said that lymphocytosis by itself was not sufficient evidence to prove that the disease was syphilitic, but the result of treatment combined with this made it fairly certain that it was a syphilitic gumma that caused the symptoms in this case.]

EXAMINATION OF THE CEREBRO-SPINAL FLUID.

The Wassermann-Neisser-Brück method.—This test may be carried out in the following manner. It is necessary first to immunise an animal against the blood corpuscles of some other animal—for example, by injecting the blood corpuscles of an ox into the circulation of a rabbit. After several injections the blood serum of the rabbit becomes hæmolytic to the blood corpuscles of the ox by virtue of the presence in the serum of an immune body *plus* the normal complement or cytase. The latter is removed from the serum after withdrawal from the rabbit by heating to 56° C. for 30 minutes. There is then left in the rabbit's serum the immune body, which by itself will not dissolve the red blood corpuscles of the ox. The addition, however, of a small amount of guinea-pig serum which contains complement will at once restore its hæmolytic properties. The actual experiment consists in mixing the serum or cerebro-spinal fluid to be examined in varying dilutions with a watery or alcoholic solution of the liver of a syphilitic fœtus; a small amount of the serum of a guinea-pig is added, and the bulk made up to a constant volume (about two cubic centimetres) with saline solution. The series of tubes containing these mixed solutions are placed in an incubator at 37° C. for one hour, and then the sensitised corpuscles are added. By sensitised corpuscles I mean the washed corpuscles of the ox to which has been added the heated rabbit's serum. The mixtures are again placed in an incubator for two hours at 37° C., then removed and placed on ice over night. The next morning the amount of hæmolysis in each tube can be estimated. If, on the one hand, antigen (contained in the extract of the syphilitic liver) and antibody (in the serum or cerebro-spinal fluid) have been present they have united with the complement (provided by the guinea-pig serum), and no solution of the corpuscles will have taken place, because the complement has been fixed before the addition of the sensitised corpuscles. If, on the other hand, the antibody was not present in the serum or cerebro-spinal fluid, then the complement in the guinea-pig serum has remained free to act on the sensitised corpuscles and to lead to their solution (hæmolysis). A control experiment using normal serum or cerebro-spinal fluid—namely, one which contains no antibody—must be made at the same time. In order to make the *antigen* test, the blood serum or cerebro-spinal fluid is used in place of the syphilitic liver extract, and tested in varying dilutions against a serum or cerebro-spinal fluid which has previously been proved to contain antibody in known amount.

The Noguchi method.—A simple method introduced by Noguchi consists in boiling two parts of the cerebro-spinal fluid with five parts of a 10 per cent. solution of butyric acid in saline solution for a few seconds and then adding one part of a normal sodium hydrate solution and again boiling briefly. A flocculent or granular precipitate is obtained on standing in parasyphilitic affections due to the presence of a globulin. The test is useful in distinguishing general paralysis from other forms of insanity not associated with meningo-encephalitis.

Cyto-diagnosis.—The number of leucocytes present in the cerebro-spinal fluid may be estimated approximately by the following methods. 1. A drop of the fluid which has been previously well shaken is placed in the chamber of a Thoma-Zeiss hæmocytometer and the cells allowed to settle. The number of cells lying over the 400 squares of the chamber multiplied by 10 will give the number of leucocytes in one cubic millimetre of the fluid. 2. The cerebro-spinal fluid is centrifuged and the supernatant fluid poured off. The residue is removed in a capillary pipette, blown on to a slide, and allowed to dry. Stained with Leishman or Jenner's stain the residue from a normal cerebro-spinal fluid will show at the most only two or three lymphocytes in the field with a magnification of 400 diameters, whereas in progressive para-syphilitic affections the lymphocytes are markedly increased in number.

An Address

ON

THE OPERATIVE TREATMENT OF FRACTURES.

Delivered before the American Medical Association, Atlantic City, New Jersey, U.S.A., on June 9th, 1909,

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GENTLEMEN,—I hope to put before you clearly and briefly my views and experience of the treatment of simple fractures.

I was originally led to resort to operative procedures by finding from the dissection of bodies, whose bones had sustained fractures that the fragments when displaced had hardly ever united in anything approaching accurate apposition, and that definite changes took place in those joints whose functions were affected by the alteration in the physiology of the skeleton resulting from such imperfect replacement of the broken fragments.

A careful inquiry into the results of the treatment of fractures by splints and manipulation confirmed the experiences of the dissecting-room, and showed that the consequent joint changes meant depreciation in physique and in the wage-earning capacity of those who had to engage in laborious pursuits. These views met with violent opposition till the discovery of x rays proved that the first contention was true, while the law courts are steadily impressing on the profession in a costly manner the disabilities which are associated with imperfect restoration in the form of broken bones.

In 1894 I read before the Clinical Society of London my first paper on the results of the treatment of simple fractures by operation, and I contrasted them with those obtained by other means. Since that time I have continued to operate on all simple fractures in which I was unable to bring the fragments into satisfactory opposition when the circumstances of the patient required it. During the last 17 years I have operated upon a very large number of recent fractures at all ages, from early infancy to extreme old age, with [illegible] oyed various methods [illegible] e means of fixation of [illegible] which shall be at [illegible] application. I soon [illegible] pen operation was to become general it was necessary that the procedure should be rendered as uncomplicated as possible.

The difficulty that has beset this treatment is that if a foreign body is left in a [illegible] more careful about asep[illegible] of events, and in a deg[illegible] foreign body. Judging from what I have read on the subject it would also appear that the methods of the antiseptic surgeon, as contrasted with those of the surgeon who [illegible] It is because of [illegible] ne extent from a [illegible], screws, &c., that we hear so many complaints of the development of rarefying osteitis, about a screw or wire perforating a bone, of screws working loose and consequently becoming ineffective for the purpose for which they were employed, and of the employment of such futile methods as ivory pegs, &c. With the exercise of greater cleanliness and with an increasing manual dexterity these troubles will cease to arise. Why a surgeon should not be governed by the same principles by which an ordinary skilled mechanic works I cannot understand, but I presume that the surgeon has rarely had any such training as would fit him for this kind of work Curiously enough, the opposition to such operative procedures, which continued with such intensity for so long, seems to have suddenly diminished because several surgeons have broken loose from tradition and have satisfied themselves that by operation alone can the greatest measure of success be obtained.

I do not propose to discuss the various methods which I have adopted for retaining the fragments immoveably in accurate apposition, but will confine myself to describing those which I now find most effective for the purpose.

The locality of the incision should be carefully chosen to avoid damage to important structures, and especially to nerves, and to reduce to a minimum the chance of subsequent infection of the wound. In the lower extremity there is no risk of danger to important vessels, tendons, or nerves, but in the arm the conditions are very different and every precaution must be taken.

To ensure asepsis, which one can do with certainty, an incision [illegible] and heavy enough to fall away from the wound and do not require to be held. The forceps used to control hæmorrhage exert pressure upon the bleeding vessels sufficient to permanently obliterate their lumen. By their use the necessity of the introduction of the gloved hand into the wound for the purpose of tying a ligature is avoided. The danger of the rubber glove is the possible presence of a puncture through which infection might enter the wound. The hæmostatic forceps are very long, so that the handles fall free of the wound. All instruments employed for manipulating fragments, holding swabs, plates, and screws, drilling bones, and driving in screws are also very long and very powerful in order to avoid any contact of the portion of the instrument grasped by the hand with the wound, since the gloves are liable to be damaged in the powerful manual efforts which are sometimes necessary to restore the broken bone to its original form.

In considering the means by which accurate apposition of fragments is effected we must take into account the nature of the fracture and whether one or two bones are involved. Besides this, comminution often adds greatly to the difficulty of the operation. In torsion fractures the surgeon must remember that in proportion to the overlapping of the fragments so there exists between and separating the surfaces which have to be brought into apposition an increasing quantity of muscle, since the chisel-shaped fragments diverge from one another as they overlap, burying themselves in the surrounding soft parts. Anyone imbued with the old creed and unfamiliar with operations on recent fractures would imagine that to effect apposition all that is necessary is to exert traction upon the distal fragment of the broken bone by pulling on the limb, the trunk being secured, and that by means of this traction the fragments can be drawn from their beds in the soft parts and the fractured surfaces placed in accurate contact. In the case of spiral fractures of the long bones of the lower extremity, in which this variety of fracture is the most common, no amount of traction which can be exerted on the limb is sufficient to overcome the overriding of the fragments. This is due to the resistance offered by the bruised and swollen soft parts which surround the fractured bone and from the point of view of traction on the limb form inextensile ties in its length. This applies equally to fractures produced by direct injury, the resistance to replacement varying with the extent of overlapping of the fragments, the amount of extravasation of blood, the laceration of soft parts, and the consequent inflammation.

To effect apposition in the spiral fracture it is necessary to divide or displace all soft parts intervening between the fragments, to carefully clean away any clot or soft tissues from the fractured surfaces, and especially from the retreating angles of the fragments, and to exert traction on the limb, supplementing that traction by forcible apposition of the fragments by powerful forceps, which are so manipulated as to glide the inclined plane of one fragment upon the other. This gliding of the fragments is facilitated by the introduction of a narrow flat blade with a serrated edge to prevent it slipping between the fragments which when rotated upon its axis by its powerful leverage action moves the fragments held together by the forceps upon one another.

In the case of a fracture of a single bone as the femur which has been broken by direct injury, the extent of the overlapping of the fragments is, from the nature of the injury and the mode of causation of the fracture, usually much less. Still the damage sustained by the surrounding soft parts or ties in the length is correspondingly greater, since in the torsion fracture the injury which the muscles sustain results solely from the fracture, while in that produced by direct injury the soft parts are lacerated and bruised by the impact of the force which determined the fracture and only to a small extent from the forcible displacement and overlapping of the fragments.

In a fracture of the femur produced by direct injury traction alone exerted on the limb does not appear to influence the overriding of the fragments. The fragments can most readily be brought into apposition by so manipulating the limb that the extremities of both fragments are made to protrude through the incision, and can be manipulated till the inner margins of the fractured surfaces are brought in contact with one another. Each fragment is grasped with forceps, and while the limb is slowly and steadily extended the opposing edges of the ends of the fragments are levered on one another till the broken surfaces come into accurate apposition, when the axes of the fragments are in continuity and the bone is restored to its normal form. This difficulty does not exist to the same extent in fractures of the upper extremity produced by direct injury, since the ties in this limb are less bulky and tense than in the leg, and from the nature of things spiral or torsion fractures are of comparatively rare occurrence in the humerus, radius, or ulna, though they are not infrequent in the metacarpals.

The difficulty of effecting accurate apposition is very greatly increased by the presence of comminution which can make a considerable demand on the skill and ingenuity of the surgeon. This complication produces most obstacles in the case of the spiral fractures, since every aspect of the fragments is very oblique and much is necessarily out of sight, and there is no surface or point on which one fragment may be made to impact on the other. Perhaps the most awkward complication one may have to meet is great fragility of the fragments, such as appears to exist to a great extent in alcoholics and to a lesser degree in feeble children and in old age, but this concerns the retention of the fragments in apposition rather than their reduction.

Delay in operating renders the replacement of the fragments more difficult, because the shortened soft parts or ties become rapidly less extensile, and a correspondingly greater force is required to stretch them. This is a serious matter if the bones are fragile or comminuted. The operation should be undertaken as soon as the skin can be effectually cleansed.

As to the best means of retaining fragments securely in apposition when the fractured bone has been restored to its normal form, I would point out that in certain fractures, as in those about epiphysial lines, there is usually no tendency to a recurrence of the displacement once reduction has been effected, providing the part is put up in a position the reverse of that in which it was produced. For instance, in a Colles's fracture either through bone or through the junction of the shaft with the epiphysial line, after replacement of the fragment by manipulation or operation the hand is retained in a position of extreme flexion and adduction, which is also the extreme position of usefulness. It is well to remember that if the surgeon has to employ any means for retaining an epiphysis in position—as, for example, in separation of the lower epiphysis of the femur—he should insist on the removal of the rigid connecting medium after union has been effected; otherwise it will control the growth in the epiphysial line and deformity will result. In a case of a complicated fracture through the inner half of the epiphysial line of the lower end of the femur, objection was made to the removal of the staples which were employed to retain the fragment in position because of the condition of the patient. Later this patient developed a bowed leg.

There are occasions on which it is necessary to rely on screws alone, as in the case of fractures of the neck of the femur and in some spiral fractures, but in the vast majority of cases I prefer to use as long and as strong a steel plate as possible, carrying as many screws as space permits. To reduce the difficulty of finding the drill-hole in the distal compact layer of bone, which is frequently of no avail when the fragment is comminuted, I employ screws of a length only sufficient to engage the proximal compact tissue and threaded up to the head in order to secure as firm a hold as possible on the bone. For this purpose I use screws in two lengths—½- and ⅝-inch—and in two gauges—Nos. 5 and 7. In the young infant I employ ⅜- and ½-inch screws in No. 3 gauge. The fewer the varieties of screws employed the smaller is the number of drills, and consequently the less complicated the operation, since each gauge of these modified screws requires only one drill. By this means I have reduced enormously the difficulties of securing the fragments immoveably in apposition. In simple fractures I hardly ever use wire. I would exclude from this the fractures of infancy when two or more weeks have been allowed to elapse between the receipt of the injury and the operation. In such cases the distal fragment loses its density at a very early period, and while the proximal fragment will hold the screw securely the thread will get no secure grip of the distal portion because of its friability. In these circumstances I supplement the junction by encircling the plate and distal fragment with a loop of silver wire.

The operative measures which are required in the treatment of badly united fractures are similar, except that the fragments have to be cut through in two distinct planes in fracture of a single bone and in four planes in fracture of two bones, such as the radius and ulna or tibia and fibula, in order that the axes of the fragments can be rendered continuous. These operations are very much more difficult and are accompanied with more risk from hæmorrhage than are recent fractures. The results obtained are also very rarely as good because of the changes which develop in the joints whose functions have been affected by the faulty junction. I think that with better initial treatment such cases will soon cease to exist.

Whatever the extent of the shortening in badly united fractures, the surgeon should endeavour to correct it entirely or to reduce it as much as possible. There is, as far as I am aware, no limit to which the muscles, nerves, vessels, &c., can be stretched if only sufficient force can be exerted on the fragments. Such operations may make a very great demand on the skill and resources of the surgeon, and an increasing familiarity with them will enable him to obtain an increasing measure of success.

A PRELIMINARY NOTE ON THE VACCINE-THERAPY OF ENTERIC FEVER

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MY attention was first drawn to the possibility of using a bacterial vaccine in the treatment of enteric fever from a remark made by Sir A. E. Wright in a lecture given by him under the auspices of the Chelsea Clinical Society, London, and reported in the *Clinical Journal* of May 6th, 1906. Wright suggested that the results obtained by M. Chantemesse in exploiting an antityphoid serum were probably due to a typhoid vaccine in disguise; or in other words, that the antiserum used probably contained bacterial elements derived from the cultures originally injected into the horses which supplied the serum.

The subject of vaccine-therapy in cases of enteric fever was referred to by Lieutenant-Colonel C. Birt, R.A.M.C., in an article by him in the *Journal of the Royal Army Medical Corps* for September, 1906. Birt in his review recommended the inoculation of one-fiftieth of the dose of vaccine used in preventive inoculations, and that the blood changes should be studied either by opsonic index determination or by Bordet's and Gengou's reaction of fixation of complement. He also advised that the site of injections should vary; no part should be twice inoculated. He did not record any cases treated by himself, but mentioned that C. Fraenkel had treated some 57 cases as long ago as 1893.

The therapeutic application of this method to the treatment of enteric fever is as yet practically unexploited, but judging from the results obtained in the few cases which I have treated, the method is worthy of careful consideration, and may possibly be the means of greatly diminishing the death-rate from this disease.

The principle [illegible] lactic bacterial [illegible] This principle [illegible] which elaborates [illegible] therapy one of the most important points connected with the elaboration of these immune bodies is that it should take place before marked necrotic changes have taken place in [illegible] important. Our aim should be to follow up the positive phase response without calling into existence any perceptible negative phase. It is very evident that we are not likely to attain this object by using large doses, or even moderately large doses, giving rise to marked constitutional symptoms and a consequent negative phase superimposed upon the disease from which the patient is already suffering; we are more likely to attain our object by using small doses of a vaccine prepared from the strain of bacteria responsible for the patient's disease, and only just sufficient to produce a response without producing any registrable negative phase. When the dose is regulated on these lines a positive phase only is registered, and a phagocytic response takes place soon after the inoculation.

Wright[1] obtained evidence of increased bactericidal power in the blood of persons inoculated with an antityphoid vaccine on the day following inoculation; also evidence of increased phagocytic response on the day following the inoculation of a staphylococcus vaccine. In numerous cases he obtained evidence of an increased opsonic power of the blood within one hour after the inoculation of a tubercle vaccine. Allen[2] has in several instances obtained an increased opsonic index within 24 hours after the inoculation of bacterial vaccines; and in one case, after the therapeutic inoculation of 250,000,000 organisms prepared from a culture of the micrococcus catarrhalis, he obtained an opsonic index of 1·57 within eight hours; and indices of 2, 2·23, and 2·32 within 12, 15, and 18 hours respectively. It is true that in these examples of a quick response the causal micro-organisms are more or less localised, and to some extent shut off from free access to the lymph and blood streams, and it is in cases of this kind that bacterial vaccines are believed to give the best results; but latterly several successful results have been recorded by Wright and others in cases of streptococcal septicæmias.

Typhoid fever being a general septicæmia in addition to having localised foci when the causal micro-organisms multiply, there are no *à priori* reasons why the principles of curative vaccination, which have been successfully applied to other septicæmic diseases and localised infections, should not hold good in this disease. The conditions which obtain in a case of enteric fever are not favourable for the rapid production of protective substances, because the specific bacterial elements are being constantly introduced into the blood stream, where they are killed off and diluted to such an extent that when they come in contact with the tissues which elaborate bacteriotropic substances a feeble response only can take place. In these circumstances a toxic effect may be the most prominent symptom, and as a matter of fact, it often is in many cases of enteric fever.

When the same bacterial elements are introduced subcutaneously in the form of a vaccine and in appropriate doses the toxic effects are a negligible quantity, and mainly localised to the vicinity of the inoculation. The bacterial elements are brought directly in contact with the tissues which respond by the elaboration of protective substances. An increase of thermostable opsonins may be taken as an index of the immunising response taking place during an attack of enteric fever, and it may also be taken as an index of the increased immunising response stimulated by the vaccine treatment of this disease.

There is at present a general consensus of opinion that autogenous vaccines give rise to better results than stock vaccines. The results achieved in the two cases (Nos. 8 and 9) treated with vaccines prepared from their own micro-organisms would seem to point towards a justification of this opinion. Of the nine cases here recorded seven were treated with a stock vaccine prepared from one strain of bacillus typhosus, and two with autogenous vaccines. The vaccines were prepared from a 48-hours' broth culture killed by the addition of 0·5 per cent. carbolic acid; standardised by counting after the dilution of a measured quantity (in accordance with methods devised by Sir A. E. Wright) and sterility tested in the usual way. It was found that the addition of 0·5 per cent. carbolic acid could be relied upon to give a sterile vaccine within 24 hours without any previous heating. This method of sterilisation is now used at the Central Research Institute, Kasauli, in the preparation of antityphoid vaccine sent out for preventive inoculations, the possible harmful effects of heating being avoided.

From a practical experience of the use of this particular strain of bacillus typhosus in prophylactic inoculations, and judging from the blood changes and reactions following its use, 0·5 cubic centimetre was found to be a suitable first dose, and 1 cubic centimetre a suitable second dose. These quantities corresponded to 270,000,000 and 540,000,000 bacilli respectively. In the therapeutic application of the vaccine it was deemed advisable to give doses not likely to cause any apparent constitutional disturbance. In the first few cases treatment was commenced by giving 6,000,000 bacilli, about a forty-fifth of the first prophylactic dose. In the other cases the doses varied from 8,000,000 to 12,000,000 bacilli, and in two cases 30,000,000 and 40,000,000 bacilli were given. The vaccine was always given in a bulk of one cubic centimetre, which was easily arrived at by diluting the original vaccine with normal salt solution, so that one cubic centimetre corresponded to the number of bacilli to be given.

The front of the chest about four inches below the centre of the clavicle was the site selected for the injections, and no two inoculations were given in exactly the same place, a practice which was based on the assumption that the bacteriotropic substances resulting from the inoculation of bacterial vaccines are probably formed in the tissues at the site of the inoculations.

The technique employed in testing the phagocytic response was practically similar to that used by Sir A. E. Wright in his opsonic experiments. It was necessary to use a diluted serum in order to obtain a more exact measure of the increase in thermostable opsonins, as indicated by an increase in the phagocytic response of those inoculated. Unless the serum had been diluted it would have been impossible to accurately count the bacilli taken up by the phagocytes in some of the cases treated.

Technique.

1. *Serum.*—Blood from the finger was drawn off into glass capsules and allowed to stand at room temperature for 24 hours, when the clear serum was pipetted off and diluted 1 in 5 with sterile normal salt solution. The diluted serum after being filled into glass pipettes and sealed was heated in a water bath at a temperature of 58° C. for 15 minutes, so as to eliminate the thermolabile opsonins and complement. It was then ready for use. The control serum was from a healthy laboratory attendant and prepared in the same way.

2. *Blood corpuscles.*—One volume of blood was drawn off from the finger of a healthy man and mixed with an equal volume of 1·5 per cent. sodium citrate in normal salt solution. The mixture was then centrifuged and the supernatant clear fluid drawn off with a pipette. The corpuscles were then well mixed with an excess of normal salt solution, and again centrifuged and the supernatant fluid drawn off. This process was repeated three times. The washed corpuscles were now gently mixed so as to give an even distribution of the white cells.

3. *Bacterial suspension.*—A platinum loopful from the surface of an 18 hours' agar growth of bacillus typhosus was well emulsified in normal salt solution and allowed to stand upright in a piece of glass tubing about a quarter of an inch in diameter, sealed at one end, and resembling a small test tube. It was allowed to stand in this position while the serum dilutions and washed corpuscles were being prepared. Care was taken to make the suspensions as nearly as possible of the same strength each time and when used one volume was drawn off from the upper part of the fluid in the tube. The same strain of bacillus typhosus was used for the opsonic and agglutination tests throughout these experiments.

4. *Dilutions employed.*—Heated serum dilution (1 in 5), two volumes; washed corpuscles, two volumes; and bacillus typhosus suspension, one volume. These proportions gave a

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[1] Principles of Vaccine Therapy, a lecture delivered before the Harvey Society, New York, by Sir A. E. Wright.

[2] Vaccine Therapy and the Opsonic Method of Treatment, second edition, 1908 (London: H. K. Lewis).

final serum dilution of 1 in 12·5. After being well mixed by filling and refilling several times into a glass pipette the end of the pipette was sealed off and the mixture placed in the incubator for 15 minutes at a temperature of 37° C. It was then taken out of the incubator, the end of the pipette snipped off and the contents again well mixed, and films made and stained in the usual way. When counting only polymorphonuclear corpuscles were noted; a note was also made of the corpuscles which showed no phagocytosis. Some workers attach more importance to the percentage of negative corpuscles than to the phagocytic index as indicated by the average number of bacteria ingested. On this account I decided to record the results in both ways.

It is well to bear in mind that the opsonic content of an enteric fever patient's [illegible] day to day irrespective of [illegible] ormal person's opsonins may also fluctuate from day to day, but, generally speaking, they remain at a lower ebb than in the case of a patient who is successfully struggling to rid himself of a bacterial infection, or who is being assisted in his efforts to produce bacteriotropic substances by means of vaccination.

In the application of this method of treatment the guiding principles should be to avoid the production of any apparent constitutional disturbance, and to follow up the positive phase as indicated by an increase of opsonins in the patient's serum. On these points much yet remains to be observed, and further experience is required to decide the most efficient dosage and interspacing of doses.

Judging from the manner in which Cases 8 and 9 responded to the treatment I would recommend when possible a vaccine prepared from the patient's own infecting micro-organism, to be given as early in the disease as possible, and in doses of from 15,000,000 to 30,000,000 of bacilli daily, for from four to six days in succession, a fresh site to be selected for each injection, and the opsonic index to be tested daily. Any lowering of the phagocytic response or other untoward constitutional effects would indicate that benefit was not being derived from the inoculations, and in the event of this occurring an interval should be allowed to elapse until the opsonic content of the blood became increased.

The quickest method of obtaining the bacillus typhosus or paratyphosus for the preparation of an autogenous vaccine is to make a cultivation from the patient's blood. This is best done by drawing off a few cubic centimetres of blood from the median basilic vein of the arm by means of a sterile needle and syringe, using aseptic precautions, and immediately transferring the contents of the syringe to 20 or 30 cubic centimetres of Conradi's bile medium, or to the same amount of sterile ox bile. The blood-infected bile medium should be incubated for from 16 to 24 hours at 37° C., and subcultures made on to one or two agar slopes. When the agar slopes have been incubated for 24 hours at 37° C. any growth present is tested for purity, and also as to whether it is a typhoid or paratyphoid A or B growth. Having cleared up these points, a few broth tubes may be inoculated from the pure agar growth, and after 24 hours' incubation at 37° C. a vaccine can be prepared and standardised in the usual way. Counting from the time the sample of blood is taken from the patient it is possible to have a vaccine prepared by this method on the third day, or on the second day by utilising the first agar growth obtained from the bile medium.

While the autogenous vaccine is being prepared treatment should be commenced by using a stock vaccine, and then carried on with the vaccine prepared from the patient's own micro-organism as soon as possible.

Where facilities for the preparation of a vaccine from the patient's own micro-organism are not available a stock vaccine could be used. The vaccine used for the prophylactic inoculations could be diluted with sterile normal salt solution, so that one cubic centimetre contained the number of bacilli suitable for a therapeutic dose. In the absence of facilities for carrying out opsonic tests, Widal's reaction in conjunction with the general condition of the patient might be taken as guides to dosage, interspacing of doses, and the continuance of treatment. During vaccine treatment there is no necessity to alter or interfere with any ordinary symptomatic or general treatment usually carried out. In the cases here recorded the usual treatment was not in any way interfered with.

Of the 11 cases, details of which are given, nine were treated with vaccines—viz., seven with stock vaccines and two with autogenous vaccines (vaccines prepared from their own infecting micro-organisms). Two of the 11 patients did not wish for vaccine treatment. One of the untreated patients died. All those who received vaccine treatment made a good recovery. The bacillus typhosus was isolated from the blood early in the disease in every case. My thanks are due to Captain E. D. W. Greig, I.M.S., for much assistance in making cultivations from the blood, and to Captain D. S. Harvey, R.A.M.C., for valuable help in testing the opsonic index in several of the cases detailed in Appendix I.

Conclusions.

1. It will be seen that the administration of bacterial vaccines in cases of enteric fever is a practical method of increasing the bacteriotropic substances in the blood, as evidenced by an increase in the opsonic index of those treated by this method.

2. When appropriate doses are given the method is devoid of all risks, is easily carried out, produces no apparent disturbance in the patient's condition, and does not interfere with any other treatment the physician may deem necessary.

3. It would not be possible to generalise from the few cases here recorded as to whether vaccine treatment has a marked effect in cutting short the fever period. Cases 3 and 4 treated with stock vaccine, and Cases 8 and 9 treated with autogenous vaccines, would seem to indicate that it may have this effect.

4. In six of the nine cases treated well-marked improvement set in after the inoculations. This was especially the case in Nos. 8 and 9 treated with autogenous vaccines. In the remaining three there was an amelioration of the clinical symptoms.

APPENDIX I.

Details of the 11 cases of typhoid referred to in the foregoing note, showing the dates and results of (1) cultivations made from the blood: [illegible] vaccine; (3) [illegible] of the serum opsonic tests; and (4) [illegible] cillus typhosus on bacillus typhosus. I[illegible] was isolated from the blood on the first attempt. A few cubic centimetres of blood were drawn off by means of a sterile needle and syringe and under strict aseptic precautions from a vein of the arm in front of the elbow, and immediately transferred to either a small bottle or small flask containing 30 cubic centimetres of Conradi's bile medium. The blood-infected bile medium was then incubated for 24 hours at 37° C. and subcultures made on to agar slopes, with the result that a pure culture of bacillus typhosus was obtained from every case.

CASE 1. *Treated with stock vaccine*.—Private ——, aged 25 years. Total service two years. Admitted to hospital on Dec 14th, 1906. Disease, enteric fever. Dec. 17th: A cultivation made from the blood gave a pure growth of bacillus typhosus. 18th and 26th: First and second inoculations of vaccine respectively, 6,000,000 bacilli. Opsonins not tested.

Agglutinating Reaction of Serum on Bacillus Typhosus.

Date.	Serum dilutions.					Remarks.
	10	20	40	80	160	
Dec 18th, 1906 (before inoculation).	+	+	+	+	±	No reaction on para typhosus A or B
Dec 25th.	+	+	+	±	—	8 days after first inoculation.
Jan. 23rd, 1907.	+	+	+	+	—	4 weeks after second inoculation

Remarks.—The disease in this case ran a mild course No constitutional disturbance produced by the inoculation. There were no complications

CASE 2 *Treated with stock vaccine.*—Private ——, aged 24 years. Service two years and 10 months Admitted to hospital Dec 31st, 1906. Disease, enteric fever. Dec 31st: Agglutinating reaction of serum on bacillus typhosus 1 in 40 complete; 1 in 80 incomplete No reaction on paratyphoid [illegible] from the blood gave a pure growth of b[illegible] 5th, 1907 First, second, and third [illegible] bacilli. Thermostable opsonins to [illegible] onvalescent for two and a half months. April 11th: 50 cells = 85 bacilli, average = 1 7; negatives = 34 per cent Not much above what one would expect in some normal men. A cultivation made from fæces on Jan. 9th; negative.

Agglutinating Reaction of Serum on Bacillus Typhosus.

Date.	Serum dilutions.					Remarks.
	10	20	40	80	160	
Dec. 31st, 1906 (on admission).	+	+	+	±	—	No reaction on paratyphoid A or B.
Jan. 2nd, 1907.	+	±	—			Before first inoculation.
„ 3rd „	+	+	+	—		24 hours after first inoculation.
„ 5th „	+	+	+	±	—	2 days after second inoculation.
„ 23rd „	+	+	+	±	—	18 days after third inoculation.

The disease ran a mild course; no complications.

[illegible] ears. Ser- [illegible] Disease, [illegible] n bacillus [illegible] complete. No reaction on paratyphoid A or B. A cultivation made from the blood gave a pure growth of bacillus typhosus. March 1st, 2nd, 3rd, and 4th: First, second, third, and fourth inoculations [illegible] 11th · Temperature [illegible] fore inoculation, and [illegible] 13th (nine days after [illegible] ago = 15; negatives = [illegible] 4; negatives = 50 per [illegible] 50 cells = 116 bacilli, [illegible] ol 50 cells = 8 bacilli, [illegible] 11th. 100 cells = 1101 [illegible] not tested. 29th: 40 [illegible] l. Control 50 cells = [illegible]

Agglutinating Reaction of Serum on Bacillus Typhosus.

Date.	Serum dilutions.						Remarks.
	10	20	40	80	160	320	
Feb. 28th (before inoculation).	+	+	+	+	+	—	No reaction on paratyphoid A or B.
March 9th.	+	+	+	±	—		5 days after fourth inoculation.
April 11th.	+	+	+	±	—		5½ weeks after fourth inoculation.
„ 28th.	+	+	+	±	—		8 weeks after fourth inoculation.

[illegible]

Agglutinating Reaction of Serum on Bacillus Typhosus.

Date.	Serum dilutions.					Remarks.
	10	20	40	80	160	
March 5th (before inoculation).	–	–				Reacted on paratyphoid B, 1 in 20. No reaction on A.
March 11th.	+	+	+	±	–	2 days after second inoculation.
„ 22th.	+	+	+	±	–	16 days after fourth inoculation.

Remarks—Cultivations made from the fæces on March 7th, 18th, 20th, and 22nd, and May 1st gave negative results. A cultivation made from urine on May 1st gave negative results. The inoculations gave rise to no disturbance. The disease ran a mild course. There were no complications. (See Chart 1.)

CASE 5. *Treated with stock vaccine.*—Gunner ——, age 24½ years. Total service, four and a half years. In India two and a half years.

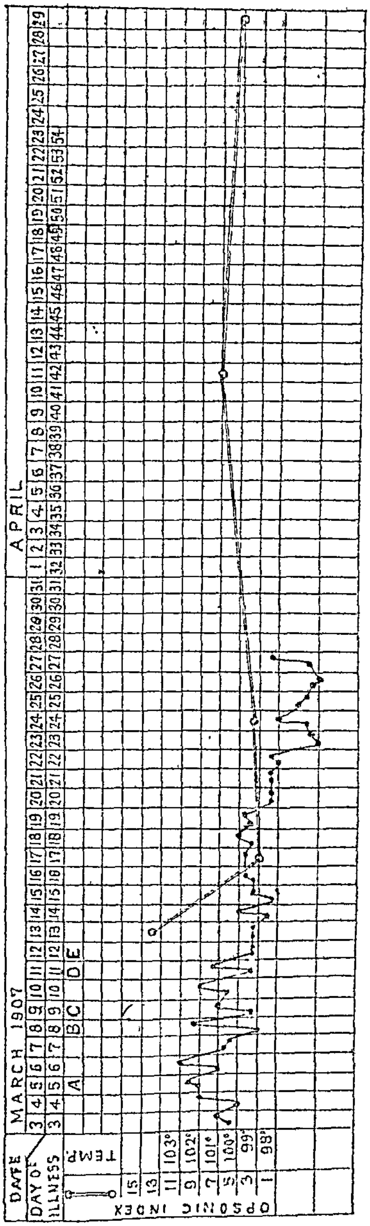


CHART 1. (Case 4.)

A, Bacillus typhosus isolated from the blood. B, First inoculation, 8,000,000 bacilli. C, Second, ditto. D, Third, ditto. E, Fourth, ditto. Double line = opsonic index.

Admitted to hospital March 23rd, 1907. Disease, enteric fever. March 24th: On admission his serum agglutinated bacillus typhosus complete 1 in 40, but not in higher dilutions. No reaction on para-typhoid A or B. A cultivation made from the blood gave a pure growth of bacillus typhosus. 25th, 26th, 29th, and April 1st: First, second, third, and fourth inoculations respectively, 12,000,000 bacteria.

Thermostable Opsonins.

1. *Before inoculation.*—March 25th: 55 cells = 28 bacilli, average = 0·51; negatives = 70 per cent. Control 50 cells = 8 bacilli, average = 0·16; negatives = 88 per cent.

2. *After inoculation.*—March 26th (24 hours after first inoculation): 63 cells = 42 bacilli, average = 0 66; negatives = 76 per cent. Control 50 cells = 11 bacilli, average = 0 2; negatives = 80 per cent. 29th (three days after second inoculation): 30 cells = 78 bacilli, average = 2·6; negatives = 33 per cent. Control 30 cells = 23 bacilli, average = 0·67; negatives = 60 per cent. 31st (two days after third inoculation): 30 cells = 181 bacilli, average = 6; negatives = 16 per cent. Control 30 cells = 104 bacilli, average = 3·5; negatives 20 per cent. April 4th (three days after fourth inoculation): 30 cells = 237 bacilli, average = 7·9; negatives = 27 per cent. Control 30 cells = 39 bacilli, average = 1·3; negatives = 60 per cent. 6th (five days after fourth inoculation): 30 cells = 267 bacilli, average = 8·9; negatives = 33 per cent. Control 30 cells = 42 bacilli; average = 1·4; negatives = 50 per cent. 9th (eight days after fourth inoculation): 30 cells = 320 bacilli, average = 10·7; negatives = 16 per cent. Control 50 cells = 32 bacilli, average = 0 6; negatives = 60 per cent. 16th (15 days after fourth inoculation): 50 cells = 434 bacilli, average = 8·7; negatives = 30 per cent. Control 110 cells = 18 bacilli, average = 0·16; negatives = 90 per cent. 29th (28 days after fourth inoculation): 33 cells = 277 bacilli, average = 9; negatives = 30 per cent. Control 33 cells = 41 bacilli, average = 1·2; negatives = 60 per cent.

Agglutinating Reaction of Serum on Bacillus Typhosus.

Date.	Dilutions used.									Remarks.
	10	20	40	80	160	320	500	640	800	
March 24th (on admission).	+	+	+	−						No reaction on para-typhoid A or B.
March 28th.	+	+	+	+	±	−				2 days after second inoculation.
April 4th.	+	+	+	+	+	+	+	+	±	3 days after fourth inoculation.
,, 15th.	+	+	+	+	+	+	+	+	−	14 days after fourth inoculation.
,, 29th.	+	+	+	+	+	±	−			28 days after fourth inoculation.

Remarks:—In this case the symptoms were not severe. The inoculations gave rise to no apparent constitutional disturbance. Temperature fell to normal on the twenty-first day. No complications. (See Chart 2.)

CASE 6. *Treated with stock vaccine.*—Gunner ——, aged 22½ years. Total service, four and a half years. Service in India four months. Admitted to hospital on March 27th, 1907. Disease, enteric fever. March 27th: A cultivation made from the blood gave a pure growth of bacillus typhosus. Reaction of serum on bacillus typhosus—agglutination 1 in 20 complete; 1 in 40 incomplete.

Thermostable Opsonins.

1. *Before inoculation.*—March 29th: 30 cells = 3 bacilli, average = 0·3; negatives = 93 per cent. Control 30 cells = 23 bacilli, average = 0·67; negatives = 60 per cent. 30th: 20 cells = 20 bacilli, average = 1; negatives = 50 per cent. Control 20 cells = 40 bacilli, average = 2; negatives = 20 per cent. 30th and 31st and April 1st and 2nd: First, second, third, and fourth inoculations of vaccine respectively, 6,000,000 bacilli.

2. *After inoculation.*—24 hours after third inoculation. April 2nd: 30 cells = 195 bacilli, average = 6 5; negatives = 3 per cent. Control 30 cells = 45 bacilli, average = 1·5; negatives = 50 per cent. 4th (two days after fourth inoculation): 30 cells = 162 bacilli, average = 5·4; negatives = 23 per cent. Control 30 cells = 39 bacilli, average = 1·3; negatives = 60 per cent. 6th (four days after fourth inoculation): 30 cells = 258 bacilli, average = 8·6; negatives = 16 per cent. Control 30 cells = 42 bacilli, average = 1·4; negatives = 50 per cent. 9th (seven days after fourth inoculation): 50 cells = 449 bacilli, average = 8·9, negatives = *nil*. Control 50 cells = 32 bacilli, average = 0 6; negatives = 60 per cent. 11th: Fifth inoculation of vaccine, 6,000,000 bacteria. 12th: Sixth, 6,000,000 bacilli. [illegible] 50 cells = 330 bacilli, average = [illegible] 110 cells = 18 bacilli, average = [illegible] inoculat[illegible] Contr[illegible] [illegible] 22nd (ten days after sixth inoculation): 30 cells = 300 bacilli, average = 10; negatives = *nil*. Control 35 cells = 41 bacilli, average = 1·2; negatives = 50 per cent. 30th (18 days after sixth inoculation): 30 cells = 64 bacilli, average = 2·1; negatives = 50 per cent. Control 30 cells = 17 bacilli, average = 0·56; negatives = 66 per cent.

Agglutinating Reaction of Serum on Bacillus Typhosus.

—	Serum dilutions.						Remarks.
	10	20	40	80	160	320	
March 27th (before inoculation).	+	+	±	−			Also reacted on para-typhoid A 1 in 20, but not on B.
April 3rd.	+	+	+	±	−		24 days after first inoculation.
,, 4th.	+	+	+	±	−		2 days after fourth inoculation.
,, 10th.	+	+	+	±	−		8 days after fourth inoculation.
,, 15th.	+	+	+	+	±	−	13 days after fourth inoculation.
,, 30th.	+	+	+	+	+	±	18 days after sixth inoculation.
May 4th.	+	+	+	+	±	−	22 days after sixth inoculation.

Remarks.—The inoculations had no appreciable effect in diminishing the length of the fever period. Some improvement in the clinical symptoms was produced by the vaccine. About the twenty-fourth day of the disease the patient developed symptoms of bronchitis accompanied by a severe cough. At no time during the disease were the symptoms severe, and the patient made a good recovery.

CASE 7.—*Treated with stock vaccine.*—Driver ——, aged 23 years. Service four years and three months. In India 11 months. Admitted to hospital April 28th, 1908. Disease, enteric fever. April 29th: A cultivation made from the blood gave a pure growth of bacillus typhosus. May 2nd, 3rd, 4th, and 5th: First, second, third and fourth inoculations respectively of 30,000,000 bacilli.

Thermostable Opsonins.

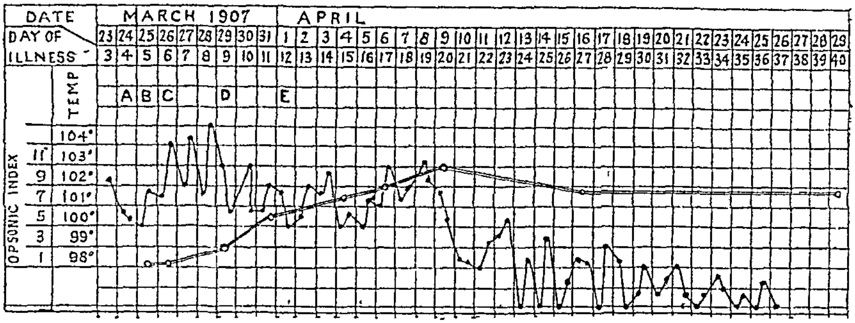
1. *Before inoculation.*—May 1st: 50 cells = 293 bacilli, average = 5·96; negatives = 34 per cent. Control 50 cells = 17 bacilli, average = 0 34; negatives = 82 per cent. 2nd: 50 cells = 469 bacilli, average = 9 38; negatives = 12 per cent. Control 50 cells = 17 bacilli, average = 0 34; negatives = 76 per cent.

2. *After inoculation.*—May 3rd (24 hours after first inoculation): 50 cells = 1227 bacilli, average = 24·5; negatives = *nil*. Control 50 cells = 22 bacilli, average = 0·44; negatives = 84 per cent. *4th (24 hours* after second inoculation): 50 cells = 590 bacilli, average = 11 8; negatives = *nil*. Control 50 cells = 15 bacilli, average = 0 3; negatives = 84 per cent. 5th (24 hours after third inoculation): 50 cells = 560 bacilli, average = 11·2; negatives = 2 per cent. Control 50 cells = 20 bacilli, average = 0 4; negatives = 78 per cent. 6th (24 hours after fourth inoculation): 50 cells = 694 bacilli, average = 13 88; negatives = 4 per cent. Control 50 cells = 18 bacilli, average = 0·36; negatives = 80 per cent 7th (48 hours after fourth inoculation): *50 cells* = 855 bacilli, average = 17·1; negatives = 2 per cent. *Control 50 cells* = 20 bacilli, average = 0·4; negatives = 80 per cent. 8th (three days after fourth inoculation): 50 cells = 931 bacilli, average = 18·6; negatives = 4 per cent. Control 50 cells = 21 bacilli, average = 0 41; negatives = 74 per cent. 9th (four days after fourth inoculation): 50 cells = 432 bacilli, average = 8·64; negatives = 16 per cent. Control 50 cells = 22 bacilli, average = 0 44; negatives = 72 per cent. 10th (five days after fourth inoculation): 50 cells = 769 bacilli, average = 15·38; negatives = 8 per cent. Control 50 cells = 10 bacilli, average = 0·2; negatives = 82 per cent. 11th (six days after fourth inoculation): 50 cells = 492 bacilli, average = 9·84; negatives = 6 per cent. Control 50 cells = 15 bacilli, average = 0·3[illegible] 82 per cent. 12th (seven days after inoculation): 50 [illegible] = 7·34; negatives = 10 per cent. Control [illegible] = 0·4; negatives = 72 per cent. 15th (ten days after fourth inoculation): 50 cells = 793 bacilli, average = 15 86; negatives = *nil*. Control

Agglutinating Reaction of Serum on Bacillus Typhosus.

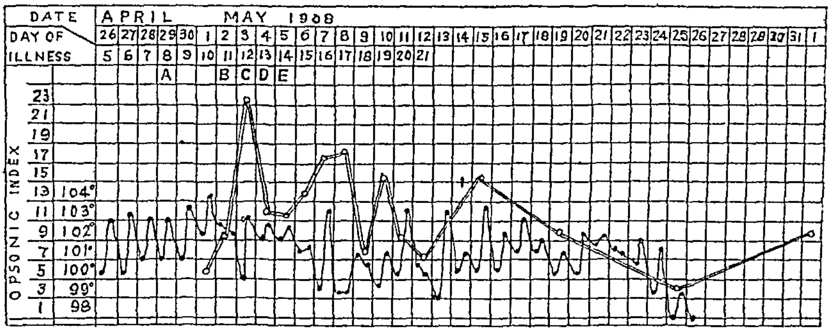
—	Serum dilutions.							Remarks.
	10	20	40	80	160	320	640	
April 29th.	+	+	+	+	+	±		Before inoculation.
May 1st.	+	+	+	+	+	±		,, ,,
,, 2nd.	+	+	+	+	+	+	+	,, ,,
,, 3rd.	+	+	+	+	±	−		24 hours after first inoculation.
,, 4th.	+	+	+	+	+	±		24 hours after second inoculation.
,, 5th.	+	+	+	+	+	+	±	24 hours after third inoculation.
,, 6th.	+	+	+	+	+	+	±	24 hours after fourth inoculation.
,, 8th.	+	+	+	+	+	+	±	3 days after fourth inoculation.
,, 9th.	+	+	+	+	+	+	±	4 days after fourth inoculation.
,, 10th.	+	+	+	+	+	+	±	5 days after fourth inoculation.
,, 11th.	+	+	+	+	+	±		6 days after fourth inoculation.
,, 12th.	+	+	+	+	+	±		7 days after fourth inoculation.
,, 15th.	+	+	+	+	+	+	+	10 days after fourth inoculation.
,, 19th.	+	+	+	+	+	+	+	1280 + 2 weeks after fourth inoculation.
,, 25th.	+	+	+	+	+	±		3 weeks after fourth inoculation.
June 1st.	+	+	+	+	+	+	±	

CHART 2 (Case 5.)



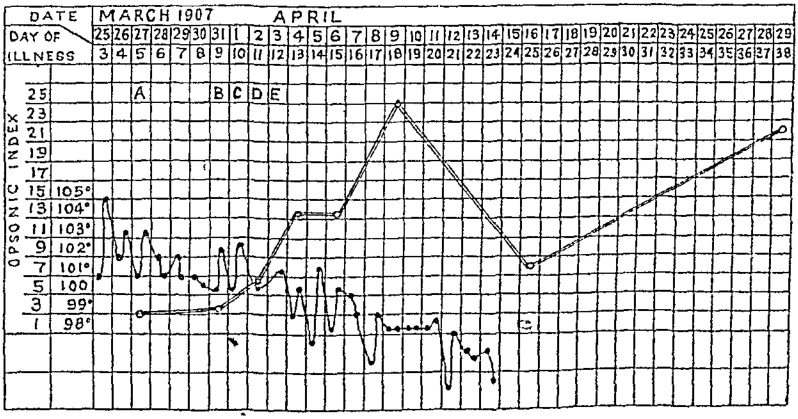
A, Bacillus typhosus isolated from the blood. B, First inoculation, 12,000,000 bacilli C, Second, ditto D, Third, ditto E, Fourth, ditto.

CHART 3. (Case 7.)



A, Bacillus typhosus isolated from the blood B, First inoculation, 30,000,000 bacilli C, Second, ditto D, Third, ditto E, Fourth ditto

CHART 4 (Case 8.)



A, Bacillus typhosus isolated from the blood B, First inoculation, 10,000,000 bacilli. C, Second, ditto. D, Third, ditto. E, Fourth ditto

50 cells = 21 bacilli, average = 0 42; negatives = 74 per cent. 19th (14 days after fourth inoculation): 50 cells = 412 bacilli, average = 8·24; negatives = 6 per cent. Control 50 cells = 17 bacilli, average = 0·34; negatives = 84 per cent. 25th (20 days after fourth inoculation): 50 cells = 234 bacilli, average = 4 68; negatives = 16 per cent. Control 50 cells = 19 bacilli, average = 0·3[illegible] June 1st (26 days after fourth inoculation): [illegible] = 9·44; negatives = 12 per cent. Control [illegible] = 0·36; negatives = 74 per cent.

Remarks.—No very marked improvement was noticed after the inoculations in this case. The opsonic index was high to begin with, and went up higher still after inoculation, and remained high during the whole course of the disease. A severe type of enteric fever from the outset. The first inoculation was given on the eleventh day of the disease. (See Chart 3.)

CASE 8.—*Treated with a vaccine prepared from his own micro-organism.*—Gunner ——, aged 28 years. Total service seven years. Service in India three and a half years. Admitted to hospital March 27th, 1907. Disease, enteric fever. On admission on March 27th his serum agglutinated bacillus typhosus complete 1 in 40 and incomplete 1 in 80. It also agglutinated paratyphoid A complete 1 in 40, but gave no reaction with paratyphoid B. A cultivation made from the blood gave a pure growth of bac[illegible] 30th a vaccine was prepared from [illegible] sterilised and standardised in t[illegible] inoculation of vaccine 10,000,000 bacilli. April 1st, 2nd, and 3rd: Second, third, and fourth inoculations respectively of 10,000,000 bacilli.

Thermostable Opsonins.

1. *Before inoculation.*—March 29th: 30 cells = 66 bacilli, average = 2·2; negatives = 43 per cent. Control 30 cells = 131 bacilli, average = 4·[illegible] [illegible]t. 31st: 30 cells = 86 bacilli, average = 2·[illegible] Control 30 cells = 104 bacilli, average = 3·5;

2. [illegible]nd (24 hours after second inoculation): 30 cells = 195 bacilli, average = 6·5; negatives = 3·3 per cent. Control 30 cells = 45 bacilli, average = 1·5; negatives = 50 per cent. 4th (24 hours after fourth inoculation): 30 cells = 406 bacilli, average = 13·5; negatives = *nil.* Control 30 cells = 39 bacilli, average = 1·3; negatives = 60 per cent. 6th (three days after fourth inoculation): 30 cells = 399 bacilli, aver[illegible] Control 30 cells = 42 bacilli, average = 1·4; [illegible] 9th (six days after fourth inoculation): [illegible]th bacilli; negatives = *nil.* Control 50 cells = 32 bacilli, average = 0 6; negatives = 60 per cent. 16th (13 days after fourth inoculation): 40 cells = 321 bacilli, average = 8; negatives = 5 per cent. Control 60 cells = 13 bacilli, average = 0·25; negatives = 90 per cent. 29th: 30 cells = 693 bacilli, average = 21; negatives = 20 per cent. Control 33 cells = 41 bacilli, average = 1·2; negatives = 60 per cent.

Agglutinating Reaction of Serum on Bacillus Typhosus.

—	Serum dilutions.							Remarks.
	10	20	40	80	160	320	640	
March 27th (on admission).	+	+	+	±				Also reacted on paratyphoid A up to 1 in 40, but not on B.
April 4th.	+	+	+	+	+	±		1 day after fourth inoculation.
,, 10th.	+	+	+	+	+	±		7 days after fourth inoculation.
,, 15th.	+	+	+	+	+	+	±	12 days after fourth inoculation.
,, 29th.	+	+	+	+	+	±		

Remarks.—This patient improved steadily after the first inoculation. His opsonic index remained high throughout the disease. There were no complications. (See Chart 4.)

CASE 9.—*Treated with a vaccine prepared from his own micro-organism.*—Gunner ——, aged 26 years. Service one year and three months. Admitted to hospital April 17th, 1908. Disease, enteric fever. April 17th: A cultivation made from the blood gave a pure growth of bacillus typhosus. On April 21st and 22nd a vaccine was prepared and standardised, and sterilised in the usual way. April 23rd, 24th, and 25th: First, second, and third inoculations respectively of 40,000,000 bacilli.

Thermostable Opsonins.

1. *Before inoculation*—April 20th: [illegible] = 0 12; negatives = 88 per cent. Control 5[illegible] = 0·16; negatives = 84 per cent. 21st: 30 [illegible] = 1·3; negatives = 53 per cent. Control 40 cells = 44 bacilli, average = 1·1; negatives = 60 per cent. 22nd: 50 cells = 30 bacilli, average = 0 6; negatives = 74 per cent. Control 50 cells = 35 bacilli, average = 0 7; negatives = 56 per cent.

2. *After inoculation.*—April 24th (24 hours after first inoculation). 50 cells = 208 bacilli, average = 4·1; negatives = 28 per cent. Control 50 cells = 25 bacilli, average = 0 5; negatives = 80 per cent. 25th: [illegible] cells = 124 bacilli, average = 2·4; [illegible]ells = 15 bacilli, average = 0·3; [illegible]urs after third inoculation): 50 [illegible]gatives = 16 per cent. Control [illegible]negatives = 76 per cent. 27th [illegible]0 cells = 381 bacilli, average = [illegible] 50 cells = 15 bacilli, average = [illegible]8th (three days after third inoculation): [illegible] average = 10 3; negatives = 2 per cent. Control 50 cells = 14 bacilli, average = 0·24; negatives = 72 per cent. 29th (four days after third inoculation): 50 cells = 245 bacilli, average = 4 9; negatives = 18 per cent. Control 50 cells = 31 bacilli, average = 0·62; negatives = 72 per cent. 30th (five days after third inoculation): 50 cells = 92 bacilli, average = 1·84; negatives = 54 per cent. Control 50 cells = 15 bacilli, average = 0 3; negatives = 84 per cent. May 1st (six days after third inoculation); 50 cells = 62 bacilli, avera[illegible]t. Control 50 cells = 17 bacilli, averag[illegible] 4th (nine days after third inoculati[illegible]ge = 1·24; negatives = 52 per cent. [illegible]rage = 0·3; negatives = 80 per cent. 13th (18 days after third inoculation): 50 cells = 100 bacilli, average = 2; negatives = 22 per cent. Control 50 cells = 19 bacilli, average = 0·38; negatives = 78 per cent. 26th (31 days after third inoculation): 50 cells = 91 bacilli, average = 1·82; negatives = 24 per cent. Control 50 cells = 19 bacilli, average = 0 38; negatives = 78 per cent. June 1st: 50 cells = 67 bacilli, average = 1·34; negatives = 38 per cent. Control 50 cells = 18 bacilli, average = 0 36; negatives = 74 per cent.

Agglutinating Reaction of the Serum on Bacillus Typhbsus.

—	Serum dilutions.							Remarks.
	10	20	40	80	160	320	640	
April 20th.	+	+	+	+	+	±		Before inoculation.
,, 24th.	+	+	+	+	+	±		24 hours after first inoculation.
,, 25th.	+	+	+	+	+	±		24 hours after second inoculation.
,, 26th.	+	+	+	+	+	±		24 hours after third inoculation.
,, 27th.	+	+	+	+	+	±		48 hours after third inoculation.
,, 28th.	+	+	+	+	+	±		3 days after third inoculation
,, 29th.	+	+	+	+	+	±		4 days after third inoculation.
,, 30th.	+	+	+	+	+	±		5 days after third inoculation.
May 1st.	+	+	+	+	+	±		6 days after third inoculation.
,, 4th.	+	+	+	+	+	±		9 days after third inoculation (temperature normal).
,, 13th.	+	+	+	+	+	±		18 days after third inoculation.
,, 26th.	+	+	+	+	+	+	±	31 days after third inoculation.
June 1st.	+	+	+	+	+	±		37 days after third inoculation

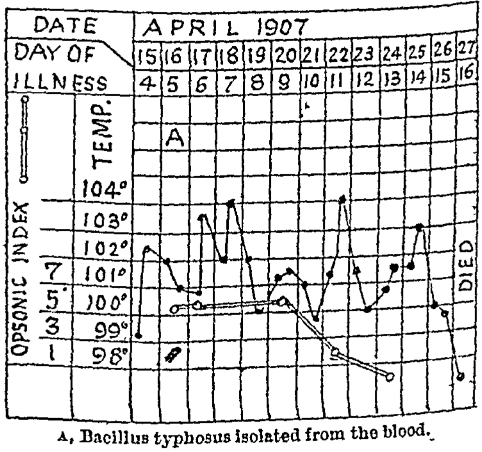
Remarks.—Steady improvement set in after the first inoculation. Temperature normal on the nineteenth day. No complications.

CASE 10. *Not treated with vaccine.*—Gunner ——, aged 22 years and 8 months. Total service 7 years and 10 months. Service in India 7 months. Admitted to hospital April 16th, 1907. Disease, enteric fever. April 16th: On admission his serum agglutinated bacillus typhosus 1 in 80. Higher dilutions not tried. No reaction on paratyphoid A or B. A cultivation made from his blood on the same date gave a pure growth of bacillus typhosus.

Thermostable Opsonins.

April 16th [illegible] negatives = 40 per cent. Control not te[illegible], negatives = 40 per cen[illegible] negatives = 60 per cen[illegible] negatives = 10 per cent. [illegible] negatives = 50 per cen[illegible] negatives = 52 per cent [illegible] negatives = 50 per cent. [illegible] A possible error due to cl[illegible]

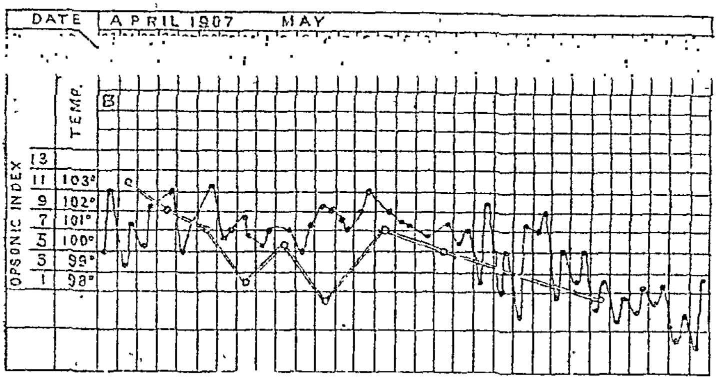
CHART 5. (Case 10.)



A, Bacillus typhosus isolated from the blood.

Remarks.—The disease assumed a severe type after April 22nd, when a low typhoid condition accompanied by hæmorrhage from the bowels set in. (See Chart 5.)

CHART 6. (Case 11).



B, Bacillus typhosus isolated from the blood.

CASE 11. *Not treated with vaccine.*—Gunner ——, aged 23 years. Service 4½ years. Admi[illegible] disease). Disease, enteri[illegible] serum on bacillus typhc[illegible] incomplete. Also gave a[illegible] and B, 1 in 40 (group re[illegible] gave a pure growth of bacillus typhosus.

Thermostable Opsonins.

April 24th: 30 cells = 361 bacilli, average = 12; negatives = *nil*. Control 30 cells = 0 (The control on this date was a man being [illegible]

May 2nd: 33 cells = 1[illegible] Control 33 cells = 17 [illegible] 4th: 50 cells = 40 ba[illegible] [illegible]

Agglutinating Reaction of Serum on Bacillus Typhosus.

	Serum dilutions.										Para-typhoid A			Para typhoid B.		
	10	20	40	80	160	200	300	400	640	800	40	80	160	40	80	160
April 23rd.	+	+	+	+	±	−					+	−		+	−	
,, 26th.	+	+	+	+	+	+	±				+	+	−	+	+	−
,, 28th.	+	+	+	+	+	+	+	+	±							
,, 29th.	+	+	+	+	+	+	+	+	+	±						
,, 30th.	+	+	+	+	+	+	+	+	+	±						
May 4th.	+	+	+	+	+	+	+	+	−							
,, 5th.	+	+	+	+	+	+		±								

Remarks.—The disease was not of a severe type, although the fever period was somewhat prolonged. Patient commenced to convalesce on the thirty-third day. His opsonic index remained fairly high throughout except on April 30th and May 4th, which corresponded to the worst periods of his illness. (See Chart 6.)

APPENDIX II.

The charts here reproduced show the temperature and opsonic indices of six of the 11 cases of typhoid referred to in the foregoing note. These charts also show the date and day of disease on which the bacillus typhosus was isolated from the blood; the dosage, and interspacing of doses of vaccine in the cases treated. In the opsonic charts the control or normal person is taken as unity, although in several instances the controls were below this average standard and in others above it. The opsonic charts are intended merely to give a general impression as to the increase or decrease of opsonins during the progress of the disease. A more correct idea of the opsonic changes which took place will be found in the details of each case in *Appendix I.*

A CASE OF FACIAL PALSY TREATED BY FACIO-HYPOGLOSSAL ANASTOMOSIS,

IN WHICH AN ANASTOMOSIS WAS ALSO MADE BETWEEN THE SPINAL ACCESSORY AND THE DISTAL SEGMENT OF THE DIVIDED HYPOGLOSSAL NERVE IN ORDER TO PREVENT PERMANENT LINGUAL PARALYSIS AND ATROPHY.[1]

BY CHARLES A. BALLANCE, M.V.O., M.S. LOND.,
SURGEON TO ST. THOMAS'S HOSPITAL.

THE patient was a single woman, aged 25 years, under the care of Dr. David Ferrier at the National Hospital for the Paralysed and Epileptic, Queen-square. When first seen by me, in January, 1906, she had complete left facial palsy and unhealed disease of the temporal bone. She gave a decided family history of phthisis and had herself suffered from hæmoptysis. In 1903, three years before she came under my care, she met with two severe accidents in each of which she was struck on the head, and in the second of which (a motor accident) she also sustained a severe mental shock, her companion being killed. Some six weeks after the last accident a discharge of thin watery inodorous pus was noticed from the left ear, and she suffered from tinnitus. She went to a hospital, and in March, 1904 (five months after the accident), was operated upon for the first time. The discharge continued, and so in July, 1904, a second operation was done, and in November a third, but with no better result. After the third operation the patient noticed a tendency to deviate to the right in walking, and the left side of the face became completely paralysed. The discharge continued, and in February, 1905, a fourth operation was done. A week later another operation was performed, after which the patient ha[illegible], sometimes [illegible]. stant head [illegible] July, 1905, a sixth attempt to cure the bone disease by operation was made. Some improvement in general condition followed, but the discharge continued. In November, 1905, the pain in the head became worse and was associated with giddiness and vomiting. When the discharge was free the pain was better and *vice versâ*. She frequently fell without any warning and bruised herself. Her vision became misty and she experienced difficulty in reading.

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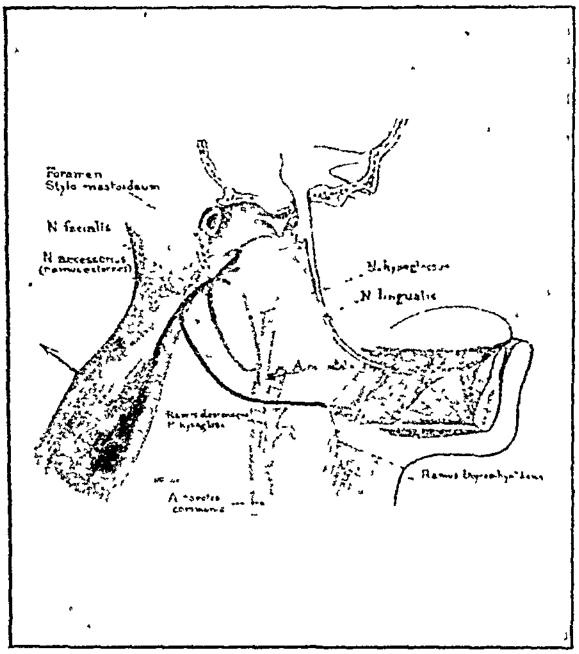
[1] A short account of this case was given at a meeting of the German Society of Surgery in Berlin on April 16th. At the same meeting Dr. Tilmann of Cologne demonstrated a very successful case of facio-hypoglossal anastomosis four years after operation.

When I saw the patient in January, 1906, foul pus was discharging from the left ear; the meatal flap had apparently fallen down so that the antrum could not be seen through the speculum. Pus was obviously pent up behind the flap. There was complete facial palsy on the left side; the patient suffered from pain in the left ear and from frontal and occipital headache. She was slightly ataxic on the left side. In walking she occasionally tended to deviate but the direction of deviation was not constant. There was no aerial conduction of hearing on the left side but bone conduction was still present. There was no optic neuritis, but the left external rectus was weak. The reflexes were normal. The right ear was normal.

On Jan. 24th, 1906, a radical mastoid operation was performed. I found that the facial nerve had been divided in the descending portion of the Fallopian canal, the horizontal semicircular canal had been opened, and there were two other openings into the semicircular canals as if an attempt had been made to remove them. The antrum had been incompletely exposed and was full of greenish pus. The tegmen tympani was carious and was removed; the dura over it was thickened but not perforated. In the 24 hours after the operation the patient three times passed into a curious subconscious state of low delirium, the respiration ceased, and artificial respiration and stimulants were necessary. The sight was much impaired, and the pupils were widely dilated and nearly immobile both to light and to accommodation. The sensitiveness of the left cornea was diminished. There was no diplopia. After the grafting operation was done epidermisation was soon completed.

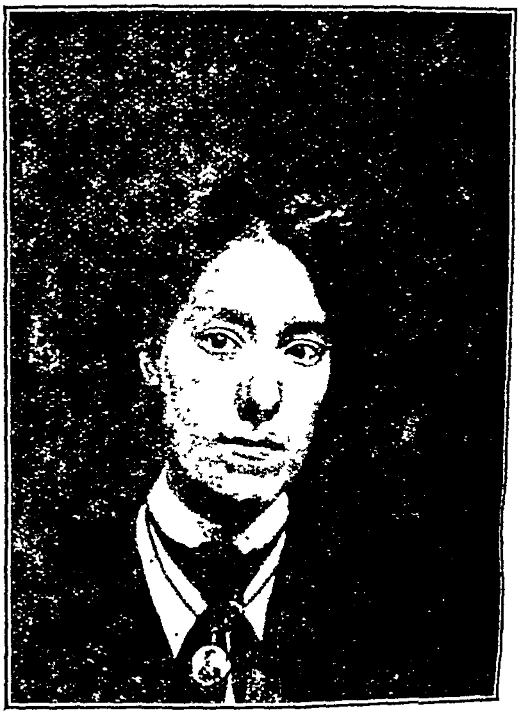
FIG. 1.



Facio-hypoglossal anastomosis. Accessory-hypoglossal anastomosis. The hypoglossal nerve was divided at the posterior border of the hyoglossus muscle. The occipital artery was then divided and the proximal end of the hypoglossal was sutured end to end to the trunk of the facial nerve which had been divided at the stylo-mastoid foramen. The spinal accessory nerve was split longitudinally and one-half was brought across the neck and sutured end to end to the distal cut end of the hypoglossal at the posterior border of the hyoglossus muscle.

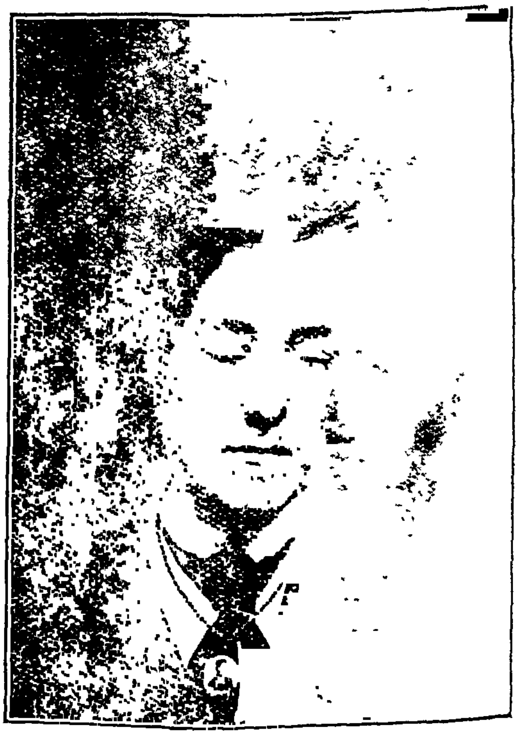
On July 4th, 1906, the patient was re-admitted to hospital. There was slight constant left internal strabismus in addition to complete left facial palsy of peripheral type. On the 10th a nerve-grafting operation was done. An incision was made along the anterior border of the sterno-mastoid; the posterior belly of the digastric was exposed and divided; the facial nerve was found at the lower part of the parotid and was identified by direct electrical stimulation; the retrahens aurem was the only muscle which responded to the stimulus. The trunk of the facial was followed up to the stylo-mastoid foramen and divided at its point of emergence. The hypoglossal nerve was found and divided at the posterior border of the hyoglossus. The occipital artery was divided between two

FIG. 2.



Facio-hypoglossal anastomosis. To show symmetry of face. The paralysis of the left external rectus occurred before the patient came under observation.

FIG. 3.

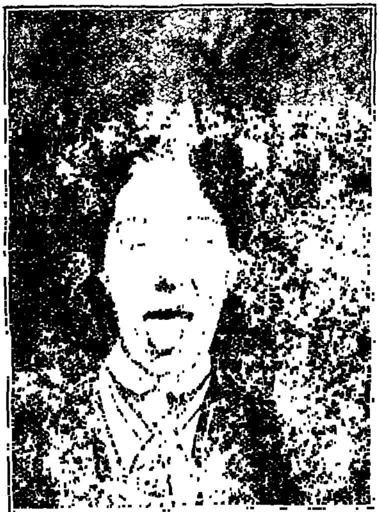


Facio hypoglossal anastomosis To show closure of eye.

[illegible] e central end of the [illegible] with the peripheral [illegible] ory nerve was next [illegible] out two inches; one-half of the nerve was divided transversely at the distal peripheral end of the slit. The strip of spinal accessory so raised up was united end to end with the peripheral end of the divided hypoglossal. The posterior belly of the digastric was sutured and the wound closed. Six weeks after the operation the left trapezius and sterno-mastoid muscles and the left side of the tongue were atrophied (*Fig.* 1).

The patient went to Canada and so was lost sight of for some time. When she returned 20 months after the operation the nutritional and functional recovery of the facial, lingual, and cervical muscles was complete. The movements of the face and tongue were dissociated, but when the shoulder was suddenly jerked a wave of muscular contraction was seen to pass from the back of the left side of the tongue towards the tip, so that the movements of the shoulder and tongue are not yet completely dissociated (Figs. 2, 3, 4, and 5).

FIG. 4.



Recovery of tongue (after atrophy from division of the hypoglossal nerve) following union with the spinal accessory nerve.

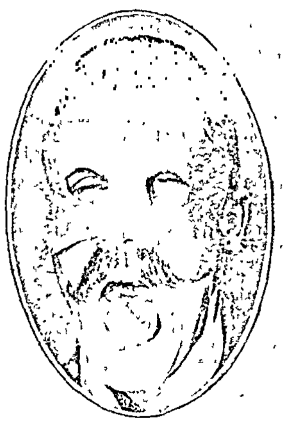
Although I happen to be the first surgeon (*British Medical Journal*, 1903) to perform a facio-accessory anastomosis (in 1895), Dr. Körte (*Deutsche Medicinische Wochenschrift*, 1903) was the first to perform a facio-hypoglossal anastomosis (in 1901), my first facio-hypoglossal anastomosis being performed in 1902. The hypoglossal nerve supplies muscles the cortical centres of which are nearer to the face centres than is the case with the cortical centres of the muscles of the shoulder. The cortical centres for the muscles of the face and tongue indeed overlap one another. It might therefore be anticipated that the prospects of dissociated [illegible] e centre for the movements of the [illegible] than when working through the [illegible] the shoulder. Moreover, it may be recalled that the movements of the tongue are closely associated with those of the lips, so much so that in health the orbicularis oris and the transverse fibres of the tongue contract together. Probably the facial nerve derives its lip fibres from the hypoglossal nucleus. There is certainly a close relation not only between the cortical face centre and tongue centre, but also between the facial and hypoglossal nuclei in the bulb. The hypoglossal nerve is therefore to be preferred for this anastomosis to the spinal accessory nerve.

Experience has shown that the atrophy of one half of the tongue leads to no material inconvenience, but that loss of power in the sterno-mastoid and trapezius muscles may be *associated with deformity, discomfort, inconvenience*, and even worse results. These are additional reasons why the hypoglossal should be preferred for the anastomosis, a view which Professor Trendelenburg endorses.

It is of the first importance to obtain in cases of facial palsy as the result of nerve anastomosis movements of the face dissociated from those of the shoulder or the tongue, as the case may be. In this way only can equal and symmetrical emotional movements, as in talking and laughing, be restored. It was shown by Professor Bernhardt[2] that in most of the cases of facial palsy which had been treated by grafting the facial nerve on the spinal accessory or the hypoglossal, although the patient did regain normal electrical reactions, associated movement of the facial muscles with those of the shoulder or tongue, and some power of voluntary movement of the facial muscles, yet the normal symmetrical play of the facial muscles in the expression of the emotions was not regained, so that the deformity, though no longer noticeable when the face was at rest, became apparent directly the patient expressed any emotional state, as in laughing or talking.

In the case I have related the movements due to emotional stimuli are symmetrical and perfect. I believe this result can be obtained only by devoting the whole nerve, either spinal accessory or hypoglossal, to the cure of the facial palsy. *Partial anastomosis such as I and others have on* many occasions done is not the right course to adopt. End-to-side anastomosis I condemn, as I do also end-to-end anastomosis with use of part only of the hypoglossal or of the spinal accessory nerve. The attempt to obtain recovery from the lingual atrophy by uniting the distal end of the divided hypoglossal to the lingual nerve on the hyoglossus muscle has in my hands failed. This case shows how a good result may be obtained without sacrificing half of the tongue or either of the cervical muscles.

FIG. 5.



Atrophy of tongue following division of the hypoglossal nerve. (After Purves Stewart.)

I am much indebted to Dr. S. A. Kinnier Wilson for the photographs of the case.

Harley-street, W.

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[2] Quoted from Professor Trendelenburg's article on Facial Palsy (Deutsche Chirurgie, 1903), and from Professor Alt's article on the Operative Treatment of Facial Palsy (Verhandlungen der Deutschen Otologischen Gesellschaft, 1908).

THE SURGICAL TREATMENT OF COLITIS.[1]

By GEORGE HEATON, M.B., B.Ch. Oxon.,
F.R.C.S. Eng.,
SURGEON TO THE GENERAL HOSPITAL, BIRMINGHAM.

During the past few years certain inflammatory affections of the large intestine, which until recently had always been treated by purely medical measures, have been occasionally dealt with by surgical means, and attention has been called by surgeons to the good results which may be attained in such cases by diverting the intestinal contents from the inflamed bowel. As I have recently had under my care two cases where this has been done with happy results I have thought it might be of interest to relate them and to make some brief remarks on the present position of surgery in this connexion.

For clinical purposes the various inflammatory affections of the large intestine—excluding specific infections like dysentery and the various forms of colitis met with secondarily in such general diseases as Bright's disease, pneumonia, and pyæmia—may be divided into four main classes: (1) acute and chronic simple colitis; (2) muco-membranous colitis; (3) acute ulcerative colitis; and (4) chronic ulcerative colitis.

Of simple acute colitis I do not propose to speak. Its treatment is a purely medical one and properly comes within the domain of the physician.

Simple Chronic Colitis.

Simple chronic colitis is a disease to which a good deal of attention has been directed of late years. In its pathology it would seem to resemble the chronic hypertrophic inflammation that one sees in the nose, and it has been called "colitis hypertrophica." It is a disease of adult life and considerably commoner in women than in men. It probably owes its origin, as so many other bowel disorders do, to habitual chronic constipation. The membranous colitis, to be referred to afterwards, seems in the majority of cases to pass through this stage.

When suffering from this form of colitis the patient, who has habitually to take purgatives to get any action of the bowels, has a good deal of griping abdominal pain, and there is usually tenderness along the course of the colon. The large bowel can frequently be palpated as a thickened tender tumour in each loin. The sigmoidoscope, which should invariably be used in these cases, reveals nothing abnormal except an excessive amount of mucus coming down from the sigmoid, and this passage of mucus is a main symptom in the disease.

It is of interest from the surgical point of view in two ways. First of all, such patients are liable to mild catarrhal attacks of appendicitis by direct extension of the trouble to the appendix. In these attacks they refer all their pain and trouble to the right iliac fossa and a tender swelling may be felt there. But a similar tenderness is generally present along the whole course of the colon. In many cases there is doubtless a distension of the cavity of the appendix with mucus, and when this escapes the pain over the organ ceases. But these intermittent distensions of the appendix may be repeated indefinitely, and when so repeated undoubtedly call for surgical treatment. For at any time the distended and thinned appendix may actually burst. But when such an operation is being advised it should be made clear to the patient that the operation is being undertaken to remove the risk of a burst of the appendix and that the symptoms which are due to the colitis may still remain.

In the second place I am firmly convinced that in some cases of chronic colitis, when the symptoms have remained unabated in spite of years of patient medical treatment, a removal of the appendix will sometimes completely cure the patient, and this even when after removal there is apparently little or nothing pathological in the removed organ. I have on eight or nine occasions removed the appendix in such cases at the request of my medical colleague, Dr. T. Stacey Wilson, and in the large majority of the cases the operation has resulted in the cure of the colitis. I can only suggest as an explanation of these results that the appendix may in some cases of chronic colitis act as a storage-ground for intestinal toxins, or its contents as the culture medium of the organisms which keep up the chronic inflammatory process.

Muco-membranous Colitis.

Membranous or muco-membranous colitis is an affection about which much has been written and about the pathology of which we are still very much in the dark. Various theories are held on the subject. Nothnagel, on the one hand, regards it as due to a "perverted innervation" of the intestine and is supported in this view by the fact that it may exist without any structural alteration or evidence of inflammation being observed in the colon. Von Noorden holds that constipation is invariably the exciting cause; while Glénard and others hold that a general enteroptosis is always present and is the main factor in its causation. We know at any rate that in a certain number of cases it is associated with diseases of the female pelvic organs and that certain other organic diseases of the bowel, such as appendicitis and carcinoma, are not infrequently found in conjunction with it. It is in all probability primarily a local disorder of the large bowel in the causation of which constipation takes a large part.

Its clinical characters are fairly typical. The majority of the patients are women somewhere between the ages of 20 and 40 years. They are usually thin, anæmic, with disordered digestions and poor circulation. Neurasthenia or hypochondriasis is often present, and the complaint is commonest amongst the so-called leisured classes. There is almost invariably a history of long-continued habitual constipation. The pain is usually of a griping character and in the course of the colon. The characteristic membranous casts are from time to time passed per anum and with these casts bright red blood is frequently seen. The sigmoidoscope reveals no ulceration of the bowel and the mucous membrane in a large number of cases is apparently normal.

Such patients have as a rule weak, flaccid abdominal walls, which give a poor support to the abdominal viscera; and in consequence these viscera, and particularly the kidneys, become loose, and there is a general visceroptosis. This visceroptosis is so common as strongly to suggest a relation between the conditions. I have on one occasion performed a nephropexy on a lady with the object of ameliorating or curing the disease. The operation was successful for three or four months, but then the membranes were passed as frequently as before.

The disease is, unfortunately, a most rebellious one to treatment. Though rarely, if ever, fatal, the patients are apt to drift into a hopeless invalidism. General hygienic measures, a careful dieting, plenty of outdoor exercise, and a change of air and scene are the chief agents in improving their condition. Medicinally the main thing is to overcome the constipation, and it would seem that the best results are gained by administering castor oil in frequent and small doses. The various intestinal antiseptics—bismuth, salol, β naphthol, cyllin, and the like—are extolled by some, but they fail as often as they succeed. If aperients fail the large intestine should be washed out daily with copious enemata and this requires to be done for several months.

Of late years surgical measures have been tried and in some cases with marked success. Weir of New York was the first surgeon to do a cæcostomy, though in his case the patient had an ulcerative colitis. Since then cæcostomy, and more recently appendicostomy, has been performed a number of times by various surgeons, and a considerable number of cures have been reported. By means of these operations the large intestine is put at rest, and with a cæcostomy the fæces are entirely diverted from the disordered bowel. At the same time, through the opening thus made the colon can be daily irrigated with mild antiseptics or astringents.

For membranous colitis appendicostomy would seem the better operation, and I have lately had a most successful case, the notes of which I briefly give.

Case 1. *Appendicostomy for membranous colitis.*—The patient was a woman, aged 35 years. She had been married 10 years but had no children. As a girl she had always been troubled with constipation and her bowels had been very irregular as long as she could remember. Occasionally, after several days' obstinate constipation, she would suffer from a most troublesome diarrhœa and would pass a considerable amount of mucus.

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[1] A paper read before the Midland Medical Society on March 24th, 1909.

For the last five years she had noticed membranous casts in the stools. These were nearly always present and occasionally she passed some bright red blood in the motions. She [illegible] ds of rest on her back in bed [illegible] had at one time or other all t[illegible] tried on her. She was a thin, spare woman with lax abdominal walls. The pain was referred along the course of the whole colon from cæcum to sigmoid. Both ascending and descending colon could be felt as firm tender swellings on deep palpation. She had a good deal of dysmenorrhœa, for which she had been treated for many years without much benefit. The bowels were extremely constipated, never being opened without purgatives or enemata. The motions contained a considerable quantity of membranous casts which were quite structureless on examination. There was a certain amount of general enteroptosis, and both kidneys were palpable but not unduly moveable. She was despondent. Her appetite was poor and very capricious. She seemed to have resigned herself to the life of a confirmed invalid. The thoracic organs were apparently normal. Her weight was 7 stones 10 pounds. She was at first put to bed and put upon a rigid Weir-Mitchell treatment. Every morning after an enema a long rectal tube was passed and the colon was irrigated with warm water. At the end of three weeks she had not improved. There was still the same abdominal pain and occasional passage of membranes and the depression had markedly increased.

The risks and inconveniences of an appendicostomy were explained to the patient and her friends, and the operation was performed in September, 1908. The operation itself was extremely simple. A small 2½-inch incision was made over the cæcum, and the appendix, which was 3 inches long and quite free from adhesions, was brought through the wound and fixed to the parietal peritoneum and skin by three catgut sutures in the upper angle of the wound. The rest of the wound was closed. The end of the appendix was cut off flush with the skin three days afterwards. A No. 10 soft red rubber catheter was passed into the colon through it, and to this was attached an irrigator containing plain boiled water. Three pints were allowed to pass gently into the bowel while a large rectal tube was in the rectum. The fluid then began to flow from the rectal tube. This lavage of the colon was repeated daily for several weeks. There was at no time any leakage from the opening in the appendix, and the only trouble experienced was an occasional difficulty in the passage of the catheter through the opening in the skin.

At the end of ten days the patient had much improved in her general condition. She lost all her abdominal pain. The sleeplessness, from which she had suffered, entirely disappeared, and she began to put on weight. Various mild antiseptic solutions were used to irrigate the colon. But none seemed any better than plain warm water. Membranes were still occasionally passed with the motions per rectum, but in much smaller masses. The irrigation was continued and is still being continued three times a week. The patient has been taught to do this for herself with the aid of a domestic servant. She expresses herself as quite well. But at present I have not countenanced the closing of the opening lest her symptoms and old troubles should recur.

Appendicostomy is to be preferred to cæcostomy for the following reasons: 1. It is a much easier operation, the shock and risks of the operation being practically *nil*. 2. It is free from the great disadvantage of cæcostomy—namely, the leakage of irritating intestinal contents through the artificial opening. 3. The opening in the appendix can be kept patent almost indefinitely, and does not confine the patient to bed, or render him an invalid. 4. The opening is extremely easy to close. In fact, it will often close itself spontaneously if a catheter is not passed through it regularly.

Acute Ulcerative Colitis.

Of the causes of acute ulcerative colitis we know but little. Some authorities, notably Rolleston, include all such cases [illegible] that bacteriological [illegible] But Osler, Allchin, [illegible]nd distinct diseases. Bright's disease would certainly seem to be a predisposing factor and the disease seems equally common in men and women.

Below are the brief clinical notes of a case lately under my care in the General Hospital and where a cæcostomy performed upon the patient when he was almost moribund undoubtedly saved his life.

CASE 2. *Acute ulcerative colitis; cæcostomy; cure.*—A collier, aged 40 years, was admitted at the beginning of September, 1907, under my colleague, Dr. T. S. Short, with headache, vomiting, and diarrhœa. He was a patient under the care of Mr. J. Bernard Garman and had been seriously ill for a fortnight. Five years previously he had had pneumonia. He had never been out of England and had always worked down a mine. On admission he was in a semi-conscious condition. His temperature was 103° F. and the pulse was 90. Sordes were present on the teeth and the breath was extremely foul, and he had profuse diarrhœa. The abdomen was distended. The spleen could not be felt. There were no rose-coloured spots. There were no adventitious sounds in his chest. An examination of his blood showed the leucocytes to number 7000 per cubic millimetre. Widal's test gave a negative reaction.

During September the patient remained in much the same state, the temperature varying from 100° to 103° and his pulse from 80 to 90, and the diarrhœa being continuous. Several times he had hæmorrhage from the bowel, having severe hæmorrhages on Sept. 28th and Oct. 7th and 11th. During October his condition became gradually worse. The diarrhœa persisted, the number of actions of the bowels increasing from 7 or 8 to 10, 12, 14, and 16 times a day. The motions were extremely offensive and often seemed to consist of pus only. His weakness and emaciation daily increased. The abdominal distension gave place to extreme retraction, bed-sores appeared on his legs and back, and though his temperature became normal or subnormal his pulse increased in frequency till it ranged from 120 to 130. Widal's test always gave a negative result. But a gradual leucocytosis made its appearance and on Nov. 4th was 20,000.

I saw the patient on Nov. 10th in consultation with Dr. Short. We decided that he had acute ulceration of his large intestine, the nature of which was uncertain, and as every kind of drug administered by t[illegible] patient was evidently going to c[illegible] checked, we decided to give [illegible] cæcostomy afforded. This was advised in order if possible to divert the fæces from the lower bowel and to enable us to irrigate the inflamed and ulcerated colon.

On Nov. 11th, two and a half months after the commencement of his illness, I performed a cæcostomy. On opening the abdomen the small intestine was thin, pale, and almost empty, and showed no signs of inflammation. The cæcum and ascending colon as far as it could be seen were thickened and sacculated in a most marked manner. His extremely weak condition would not permit of a thorough examination of [illegible] cæ[illegible] wa[illegible] a Paul's tube was tied in. Drainage, however, through this was inefficient, and it was not until the tube came away that a free drainage of the bowel was effected. After this the large intestine was irrigated daily with large quantities of warm boric lotion. Ten days later the lotion was changed for a weak nitrate of silver lotion, and this soon began to check the diarrhœa. At the same time the motions passed per rectum became more fæcal in character and lost their extremely offensive odour. The patient himself at once began to improve and put on a little flesh. He was sent home at the end of December, when the same treatment was continued daily until February, 1908, when he returned to the General Hospital and the cæcal fistula was closed for me by Mr. Frank Barnes.

The man has since then completely regained his former health. He now weighs 11 stones 5 pounds and works at his old work in the pit and keeps a small beer-house. The scar at the seat of the operation is a weak one, but gives him no inconvenience as long as he wears a belt.

Mr. Garman, writing to me on March 7th, says the patient is in perfect health and that he never remembers to have [illegible] He regards the case as one of [illegible] tion persisted in the colon [illegible] This may be so, but the

101·5° to 99° F., the patient felt better, the pain over the kidney lessened, and micturition was less frequent and less painful. In 12 hours' time, as I understood that the anti-coli serum was efficacious per rectum, and in deference to the patient's wishes, 25 cubic centimetres were given as an enema with no result. Consequently on the following afternoon the second dose of 25 cubic centimetres was given subcutaneously. The temperature within 12 hours fell to normal and the pain over the kidney and the scalding were much relieved. During the next three days the patient's temperature rose slightly, but she was obstinately constipated, and when this was relieved the temperature declined. The frequency of micturition had by this time fallen to about nine times in the 24 hours and this gradually lessened until the normal was reached.

Twelve days after the onset of the acute illness the mixed vaccine was given and caused a rise of 0·8° within 12 hours and lasting about 12 hours. Examination of the urine at this time showed only a few pus cells, and during the next fortnight these disappeared. The next injection was given in a fortnight's time and then at intervals of one month. On each occasion, however, though new needles and strict antiseptic precautions were taken, a great deal of pain at the site of the puncture was caused; there was considerable swelling, and there can still be felt a hardening of the subcutaneous tissue.

The prompt action of the anticoli serum, the absence of action of the polyvalent antistreptococcus serum, and the uselessness of rectal injection of the anticoli serum seem the points of interest in this case.

Chiswick, W.

AN INSTRUCTIVE FATAL CASE OF APPENDICITIS WITH ADVOCACY OF EARLY OPERATION.

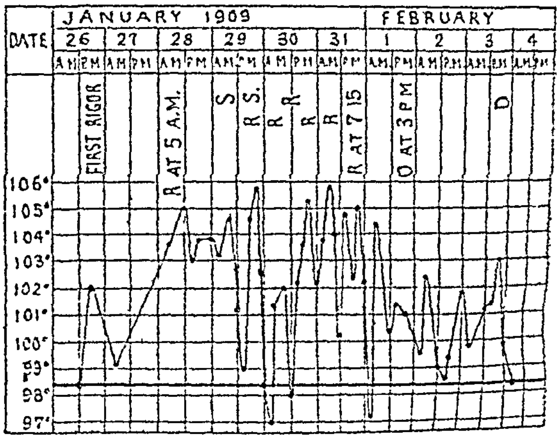
BY J. S. BODEN, M.B., B.S. LOND.,
PHYSICIAN TO THE FINCHLEY DISPENSARY,

AND

EDRED M. CORNER, M.C. CANTAB., F.R.C.S. ENG.,
SURGEON TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET; AND SURGEON TO ST. THOMAS'S HOSPITAL IN CHARGE OF OUT-PATIENTS, ETC.

Dr. F. J. Smith's report of an obscure and fatal case of appendicitis decided us to bring this case forward.[1] Like his, it was mysterious and indecipherable, the patient dying from pyæmia after a few days' illness. In his case general peritonitis was a part of the pyæmia. Both began with indefinite abdominal symptoms and diarrhœa. Both had rigors, which denoted the generalising of the poison, and, we know now, the futility of operation. There can only be one method of treatment likely to be successful in such cases—namely, early operation. It is to urge this and to aid others, when they meet similar obscure cases, that we venture to publish this paper.

The patient, aged 15 years, a lad of markedly bilious temperament, had not been very well for some days—"lackadaisical"—to use his mother's expression. On the evening of Jan. 21st he went to a whist drive and partook during the evening of sardine sandwiches, a sausage roll, trifle, jelly, and claret cup. Next day he was very lethargic, went to lie down on his bed in the afternoon, getting up for a walk before tea. During the evening he complained of headache, sore throat, and his temperature was found to be 102° F. On the 23rd he remained in bed all day, his temperature falling from 101° in the morning to normal by the evening; during the day he had four loose actions of the bowels. On the 24th, with the exception of a continuance of the diarrhœa (three actions) he appeared quite well, taking his ordinary food at meal times. His morning temperature being normal, he remained up from after breakfast till 10 P.M., when he went to bed apparently neither over-tired nor feverish. The first phase of the illness terminated at this time, as is shown on the chart. On the 25th he got up to breakfast and appeared well till mid-day, when he was given some bovril, which he vomited about two hours later, followed by some retching and pain in the upper part of the abdomen. He was seen that evening and found with a temperature of 98°, a pulse-rate of 82, a furred tongue, heavy breath, and some epigastric tenderness. His bowels acted twice loosely on this day. On the morning of the 26th he expressed himself as feeling better; there had been no further sickness and he said that the pain in his stomach had gone. He was thirsty, but had no desire for food. His temperature was normal; his tongue was covered with a thick white fur; the epigastric tenderness had gone, but on examining his lower abdomen there were distinct rigidity of the right rectus and an indistinct resistance to be felt just above and internal to the right anterior superior iliac spine. Just above the crest of the ilium and at the outer border of the quadratus lumborum pressure elicited pain. Per rectum there was no fulness or resistance. A provisional diagnosis of catarrhal appendicitis was made. At 6 P.M. the same day he had had a *slight* rigor and his temperature rose to 102°, his pulse-rate was 100, the "on guardedness" of the right rectus had disappeared, and a fairly definite resistance in the right lumbar region could be felt, which was not markedly tender on pressure. The bowels were inactive during the 26th and 27th. On the 27th the patient passed a very fair night, rousing at intervals of two hours for a drink, not complaining of pain in the abdomen, and able to lie quite comfortably with the right thigh extended. At 8 A.M. his temperature was 99·2°. When seen at midday it was 105°, with a pulse of 114; local examination showed no change from the previous night. At 8 P.M. his temperature was 104·6°, his pulse was 120, and his appearance strongly suggested typhoid fever. During the evening, on and off, he had pain in the right side of the abdomen, which was relieved by the application of a hot-water bottle, and passed a very fair night till 5 A.M. on the 28th, when he had a second slight rigor with a return of pain in the right side of the abdomen. His temperature after the rigor was 103·2°. At 8 A.M. it had fallen to 99·4°, but had risen again at 10 A.M. to 105° with a pulse of 105. A blood specimen was taken which gave a negative typhoid reaction. In view of the second rigor, Mr. W. H. Battle was asked to see the case and be prepared to operate. When he saw the boy at 2 P.M. the temperature was 103° and he had a good quality pulse of 98; his tongue was certainly cleaner, and it was considered that operation was not necessary on account of the lad's excellent general condition, the fact that the bowels had acted without pain twice in the night, the indefinite character of the local symptoms, the probability that the appendix was lying behind and to the outer side of the cæcum (the most favourable position for any active mischief remaining localised), and that it was the seventh day of the illness. The same evening (the 28th) the spleen could just be felt and the lad's condition was so like that of typhoid fever that relief was felt no operation had been done during the afternoon. His temperature remained fairly steadily at from 103° to 104° till next morning (the 29th), with a pulse of from *98 to 104*. At 10 A.M. his temperature had fallen to 99° and his pulse to 76. During the three days (28th to 30th) the bowels continued to act loosely from three to five times in the 24 hours. A third



R, Rigor. S, Sponged. O, Operation. D, Dressed under an anæsthetic.

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[1] THE LANCET, Feb. 13th, 1909, p. 463.

rigor occurred on the afternoon of the 29th, his temperature at 6 P.M. rising to 105·6° (the pulse was 112), reduced by sponging to 102·6° and falling to normal at 10 P.M. and to 97° at 2 A.M. (a fall of 8·6° in eight hours). Apart from the remittent (and intermittent) temperature the boy's condition appeared good and there was no marked change either generally or locally. Dr. T. W. Hicks of Finchley saw the case in consultation on the 30th. There were no indications for operative interference and nothing could be found to account for the rigors; he had had a fourth in the early morning of that day. The local condition at this time prompted the somewhat old-fashioned diagnosis of "typhlitis," a definite, only slightly tender, sausage-shaped swelling being felt with its large axis vertical rather external to the region of the cæcum. The temperature kept very remittent on the 30th and 31st, and six rigors occurred during the 48 hours. When seen by Mr. Corner on Feb. 1st the patient was bright and cheerful, the tongue was covered with white fur, the temperature was 99·6°, and the pulse 84. The abdomen was not distended, moved on respiration, could be palpated all over, and was only tender in the right loin. The right rectus was a little more tense in its middle than the left. Some cutaneous hyperæsthesia was present in the loin and at the side; there was none in front. The liver was not tender or enlarged. Considering the *pros* and *cons* of the case the appendix seemed most likely to be the cause of the trouble, and, in view of the boy's getting worse since he was seen on the Thursday before by Mr. Battle, operation was recommended, on the distinct understanding that the infection might have become too generalised for the operation to save the boy.

Mr. W. S. Rooke, anæsthetist to the Great Northern Hospital, gave the anæsthetic. The abdomen was opened through the right rectus and the cæcum found. It was fastened by adhesions into the loin. Gauze plugs were used to pack off the peritoneal cavity, which was uninflamed, and the proximal portion of the appendix was followed to the tip which was found in a small abscess cavity under the liver at the back of the abdomen and on the outer side of the ascending colon. It was removed, a gauze plug packed in the abscess cavity, and the wound closed round the gauze drain. The boy bore the operation well. On examination the distal half inch of the appendix contained a fæcal concretion, was gangrenous at the tip, and perforated over the concretion. The patient rallied well from the operation and his condition on Feb. 2nd was distinctly hopeful; there were no further rigors, no sickness, and the bowels acted naturally twice during the day; he had an attack of faintness during the early morning of Feb. 3rd and slight icterus was noticed. He was dressed under an anæsthetic at midday, and at 2 P.M. his temperature rose to 103° and his pulse to 140 (at no time during his illness up to this time had his pulse exceeded 120), and on examination an area of harsh pleural friction was found over the lower left axillary region, with physical signs pointing to some underlying pneumonic consolidation From this time he went rapidly downhill with dilatation and failure of heart, and died at 9 A.M. on Feb. 4th.

This case illustrates many clinical object-lessons in an important and common disease. 1. The great value of early operation (within 36 hours of the onset, which would have been the only chance of saving the patient). Early operation is the method of the future; far more appendices will be removed in the acute stage and far fewer in the quiet interval. When the patient is a young subject, in whom appendicitis is so common, an exploratory operation is justifiable in the early stage, even when the diagnosis is indefinite. 2. The illness began with indefinite abdominal symptoms and diarrhœa, unaccompanied by sickness. The [illegible] that symptom is present [illegible] that appendicitis is of a [illegible] 3. Rigors are infrequent [illegible] beginning of the illness may mark the onset of an unusually toxic appendicitis. But should it occur later in the disease, a rigor suggests pylephlebitis, portal pyæmia, or general pyæmia, under which circumstances a fatal result may be expected. 4. The type of fever as shown in the accompanying chart is very unusual in appendicitis. It is markedly remittent. 5. But one of the most remarkable clinical features of the case was that when the temperature was low, the pulse was quiet, and the boy not ill; yet he was probably doomed by the time of the second or third rigor. 6. Clinically, the illness was in two phases, the first without rigors subsiding before the second began. Although the illness appeared to subside, the cause of it did not, the suppurative process reawakening and rapidly killing the patient. The almost universal formation of pus in appendicitis [illegible] fever, and rigors. It shows how both the local and general clinical conditions may be unreliable. And that in indefinite cases it is better to rely on probability—a young person with serious abdominal mischief very probably has appendicitis, the seriousness of the illness may show itself in the pulse, the temperature, the sickness, the diarrhœa, &c.—and act on that, than to rely on the very indefiniteness of the case and pursue ordinary domestic treatment.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF RUPTURE OF THE HEART.

By WILLIAM H. DAVIS, M.D. R.U.I.,
LATE HOUSE SURGEON, ROYAL VICTORIA HOSPITAL, BELFAST; HONORARY PHYSICIAN TO OSSULSTON CONVALESCENT HOME, HENDON, N.W.

AS rupture of the heart is a lesion of somewhat rare occurrence, the following case may be of interest.

At 5.45 A.M. on July 18th, 1908, I was called to see a woman, and on arrival found her dead in bed. I had not previously attended her. She was a flabby, obese, and thickset woman, aged 62 years; her weight was 13 stones, and she was 5 feet in height. Her previous history, which I obtained from her daughter, was as follows. She had had 12 children and five miscarriages. For a considerable number of years she had been in poor health, and several attacks of influenza were the only definite illnesses recorded. For the past three years she had suffered much from œdema of the feet (worse in the evening and after standing), dyspnœa on exertion, and attacks characterised by a feeling of faintness, clammy sweats, and vomiting. Two years ago she was told by a homœopathist that she had "diabetes." The daughter stated that her mother used to drink "quarts and quarts of water and cold tea" daily, and that she was troubled by extreme irritability of the skin and "could almost scratch her legs off."

On July 16th, two days before her death, the woman attended as usual to her household duties. On the morning of the next day she complained of feeling unwell, and about mid-day had one of her "fainting" attacks, in which she lay helpless, cold and clammy, and short of breath. During the day she vomited several times and had diarrhœa and some pain in her abdomen. Her daughter first saw the vomit towards evening and she described it to me as being "chocolate-coloured." At 8 P.M., after another attack of sickness and diarrhœa, the patient retired to bed, and at 11 P.M. she had another severe attack of vomiting, on both of these occasions the vomit being as described above. At 5 A.M. the vomiting returned with increased severity, and while "straining to get anything up" she suddenly gave a rattle in her throat and fell back dead.

A post-mortem examination was held. With the exception of some passive congestion of the liver and kidneys and a dilated stomach—the mucous membrane on the anterior wall of which showed three areas of ecchymosis varying in size from that of half-a-crown to that of a shilling—the chief interest of this necropsy lay in the cardiac condition. On puncturing the pericardium about three ounces of blood-stained fluid escaped. On enlarging this opening so as to expose the heart, this organ was seen to be flabby, toneless, and collapsed, brownish-red in colour, and to be lying on a large blood clot of the size of a saucer, and about one and a half inches in thickness at its thickest part. On the upper part of the anterior wall of the left ventricle, near the septum, a tri-radiate rent was seen. When pressure was made on the ventricle blood oozed out through this opening, which was large enough to admit the tip of the little finger. On incising the left ventricle the anterior wall was found to be abnormally thin, being in fact only a quarter of an inch in thickness, and of this fully two-thirds of the outer part showed advanced fatty degeneration. The valve segments were normal, but there was some relative incompetence of the mitral and tricuspid valves.

Church End, Finchley, N.

A NOTE ON A CASE OF HYDATID CYST OF THE UTERUS; HYSTERECTOMY; DEATH AFTER 49 HOURS.

By Somerton Clark, F.R.C.S. Edin.,

SURGEON TO THE MISSION HOSPITAL, DERA ISMAIL KHAN, INDIA.

Lāl Bībī, an Afghan, from 30 to 35 years of age, was brought to hospital on Dec. 25th, 1908, by her father who is a shepherd. The patient had noticed a swelling in the suprapubic region 13 years ago. For four years this had gradually increased in size till it was of the size of a nine months pregnancy. The growth had never been painful. The appetite had always been good and the general health unimpaired. The menses had been quite regular both as to time and quantity, except for one whole year two years ago when they stopped altogether. Last year they again became regular. There had been no pregnancies.

On inspection the abdomen appeared to be fuller on the left side. On tapping two or three drops of whitish-yellow fluid escaped. Per vaginam, the cervix uteri was found to be effaced and the os uteri to be of the size of a pea, while the uterus was equally distended below and in every particular presented the condition of a woman in labour at full time.

Abdominal section was performed on Dec. 31st. The incision was three inches in length below the umbilicus. The uterus presented. The cavity of the uterus was opened and a liver trocar was thrust into the tumour, from which daughter cysts were seen to escape. On drawing the tumour out of the abdomen, the large bowel was found to be adherent for five inches. The uterus and the greater part of the tumour were then removed. The remaining part of the tumour was of the size of half a cocoanut and it could not be dissected off the bowel, and so the lining membrane was destroyed with carbolic acid and scraped. The edges were brought together with a purse-string suture. A quart of saline solution was poured into the abdomen and the wound was closed. The operation lasted for 55 minutes and at the end the patient suffered from shock. The temperature was below 95° F. During the afternoon it rose to 98°. On the next day (Jan. 1st, 1909) the patient rallied, but she became weaker during the following night. On the next morning the pulse became faster and faster and improved only for an hour after the injection of five minims of strychnine at 11 A.M. At 12 noon three pints of saline solution were transfused into the left basilic vein. At 1 P.M. the patient died. There was no sign of peritonitis.

With regard to the source of the disease, the father of the patient had never been to Australia, nor had any of his relatives. But the Povindahs, to a tribe of which this woman belonged, have dealings with Australia and work on the goldfields, pointing to the introduction of the disease from Australia.

I cannot end without thanking Miss Werthmüller, Dr. A. J. Turner, and Dr. Hal Barnett for their assistance.

Dera Ismail Khan, India.

The Society of Tropical Medicine and Hygiene.—The annual general meeting of this society will be held at 11, Chandos-street, Cavendish-square, London, W., on Friday, June 18th, at 5 P.M. A dinner, limited to 60 covers, will be held the same evening (June 18th), at the Trocadéro Restaurant, Piccadilly Circus, at 7.30 P.M., Professor Ronald Ross, C.B., F.R.S., being in the chair. Tickets, 7*s.* 6*d.* each (exclusive of wine and cigars), may be purchased at the restaurant, before dinner, by Fellows and others interested in tropical medicine who have obtained admission cards from the secretaries.

Medical Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.

A meeting of this society was held on May 26th, Dr. James Ritchie, the President, being in the chair.

Mr. C. W. Cathcart showed the following cases: 1. A case of Mistaken Diagnosis of Malignant Disease of the Abdomen in a man, aged 32 years. In 1905 he had suffered from severe pain beneath the left costal margin for a period of two weeks subsequent to an attack of influenza. The pain had then subsided and he had remained fairly well until three months before his admission to hospital, when he had a second attack of pain and later a third attack. He had lost weight considerably and on admission on Dec. 7th, 1908, he looked very ill, but no distinct gastric symptoms were present. On exploring the abdomen a large nodular mass was found in the abdomen, firmly adherent posteriorly and impossible to remove. Mr. Cathcart was so sure of the diagnosis that he did not detach a portion of the growth for microscopic examination and he made a diagnosis of malignant disease of the stomach wall. After recovery from the operation the patient was transferred to the Hospital for Incurables, where he improved rapidly. The swelling was now going down steadily and the man was regaining health. Such a case might be taken as one of the cures of cancer brought about by the employment of any of the reputed cancer cures. 2. A female patient after Double Nephropexy by Billington's method. She had suffered much from dyspeptic symptoms, as well as troubles connected with urination, and was quite unfit for her ordinary domestic duties. The right kidney was the most freely moveable, so it was first sutured, with great benefit to the patient, and later the left kidney was treated in a similar way. She had now put on much flesh and was in every way improved. The operation consisted in stripping the capsule from off the upper and posterior half of the kidney, twisting it into a cord and hooking it over the last rib, and fixing it in this position. The bare surface of the kidney became adherent to the surrounding parts, and the organ was fixed in a better position than by the usual methods. 3. A woman, aged 22 years, after operation for Idiopathic Distension of the Colon. At the operation the whole of the large intestine was seen to be distended and this extended down into the pelvis and passed directly into the rectum without there being any band or constriction. The diagnosis was made of obstruction caused by nerve spasm of the muscular fibres. An artificial anus was made in the left iliac fossa and all the severe symptoms passed off, and she had remained well since the operation two years ago.

Mr. J. W. Dowden and Mr. J. M. Graham showed a series of patients to illustrate the Results of Treatment of Fractures of the Upper Extremity by means of Slight Support by Slings instead of by Rigid Splints. Such fractures as those of the clavicle, the greater tuberosity of the humerus, the surgical neck of the humerus, the shaft of the humerus, separation of the lower epiphysis of the humerus, and fracture of the olecranon along with double Colles's fracture were all treated by slings and daily gentle massage. In periods varying from three to five weeks the patients had all regained free use of their limbs and were without any deformity. Several of them were young children, and in these a light cardboard splint was applied at night.

Professor F. M. Caird showed a man who had lost weight and suffered from Constipation, accompanied by the passage of mucus and blood. There was a nodular fixed swelling in the lower part of the abdomen towards the left side. It was diagnosed to be a carcinoma of the sigmoid flexure. On opening the abdomen the tumour was found to be fixed to the back wall of the abdomen and to have caught up certain coils of intestine and involved them in the growth These coils were divided and sutured and the tumour was dissected off. The patient was now well.

Dr. Dawson F. D. Turner showed the following cases: 1. A woman, who developed Rodent Ulcer on the Right Side of the Nose nine months ago. She had been treated with nine exposures to the x rays and one or two exposures to radium and the ulcer was healed. 2. A lad who suffered from Warts on the Hands. These were treated by radium and had disappeared by one application of 45 minutes' duration of one centigramme of pure radium bromide. It required an interval of about 14 days before the full effect of the radium was seen, and in about three weeks from the exposure the warts dropped off. 3. A woman and a child suffering from Nævus and treated by radium. In the case of the woman the nævus on the cheek had had 19 hours' exposure to one centigramme of the pure salt at different times over different areas of the nævus. In the case of the child the nævus on the lower lip had been exposed twice, each exposure occupying 20 minutes. 4. A woman, aged 50 years, who suffered from Recurrent *Scirrhus after operation in July, 1908.* The scar was in a nodular condition and was painful. Treatment by x rays and radium was commenced in January, 1909, and the nodules had now disappeared as well as the pain. She had been treated with the Edinburgh Royal Infirmary one milligramme of radium during 49 hours.

Dr. G. A. GIBSON showed the following cases. 1. A well-marked case of Adipositas Dolorosa in a woman, aged 52 years, *who suffered from breathlessness and discomfort. She* was less than 60 inches in height and more than 60 inches in girth. She weighed 23 stones on admission but presently only 21 stones. 2. A case of Anterior Poliomyelitis, possibly due to Lead Poisoning. The patient, who was a man, exhibited well-marked wrist-drop in both hands with atrophy of the thenar and hypothenar muscles as well as those of the forearm, upper arm, and shoulder girdle. Some years ago he had been exposed to the influence of lead. The disease had commenced in the muscles of the right thumb and had spread upwards and then later had affected the left thumb muscles and left hand. *This was the same mode of* onset as in [illegible] as in lead [illegible] anterior c[illegible] Disseminated Sclerosis in a young man. All the symptoms were present with the exception of the staccato voice. The sensory symptoms were mainly altered in the manner of perversions.

Mr. DAVID WALLACE showed the following cases. 1. A man, aged 30 years, who had suffered from Pancreatic Cyst. Six months before operation he had been kicked on the abdomen by a pony, and for a few days had suffered much pain in the epigastrium, with vomiting half an hour after meals For the next two or three months he had no discomfort. The pain then recurred, with the formation of a swelling to the right of the epigastrium. The tumour was of the size of a small cocoanut and was very moveable. On opening the abdomen the stomach was found pushed up and the transverse colon pushed down by the protrusion of a cyst covered with pancreatic tissue. The cyst was stitched to the edges of the abdominal wound on April 27th, and the patient was out of bed by May 17th. A small sinus was still present, but no fluid escaped, and at no time was the discharge great, nor was it composed of pancreatic fluid. 2. A female patient *after* Partial Gastrectomy She was 56 years of age and had been troubled for several months with gastric symptoms and was very anæmic. A freely moveable tumour was *easily felt; no free* hydrochloric acid was present in the gastric secretion. The tumour was attached to the posterior wall of the stomach by a base one and a half inches in diameter, and was of the nature of an adeno-carcinoma. She was now in excellent health.

Mr. GEORGE L. CHIENE showed a lad, aged 16 years, who had suffered for four months from Pain in the Abdomen with C[illegible] ti[illegible] w[illegible] performed and an exploratory incision through the abdominal wall showed that the coils of intestine were thickly studded over with white nodules The diagnosis was made of scirrhus cancer becoming colloid

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NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in Leeds on May 21st, Dr. J. W. Martin (Sheffield), the President, being in the chair.—Dr. E O. Croft (Leeds) showed the *Left* Kidney from a fatal case of Pyelitis in Pregnancy. The patient died in coma a few hours after a series of three fits. She was six months advanced in her second pregnancy. The first pregnancy occurred six years before and the labour had been followed by convulsions. The kidney was hydronephrotic and contained a large quantity of milk-like pus. The dilated and thickened ureter contained caseous material. The right kidney was normal in size, and on naked-eye section showed evidence of slight fatty degeneration; its *capsule stripped easily.*—Dr. *Croft also showed a Large Solid* Broad Ligament Tumour of unusual character. It had been enucleated from the broad ligament of a woman aged 47 years without injuring the corresponding tube and ovary. It weighed 14½ pounds and measured 10 to 12 inches in various diameters. On section it showed a central well-defined oval mass five or six inches in diameter of the consistence of a soft uterine fibroid and of a light brick-red colour. This was surrounded by a broad band of material of a myxomatous appearance. From this area a considerable amount of fluid exuded. The tumour was apparently an œdematous fibroid which had undergone central "red degeneration" and myxomatous degeneration of the peripheral portion.—Dr. Carlton Oldfield (Leeds) showed a specimen of Carcinoma of the Cervix which had been removed by Wertheim's method. The patient was only *30 years of age. She was also suffering from syphilitic rupia* and ecthyma. One enlarged lymphatic gland was found in the parametrium close to the cervix.—Mrs. F. Orford (Pontefract) showed a specimen of One-eyed Monster (Cyclocephalus).—Dr. J. B. Hellier read the notes of a case of Double Uterus and Vagina with Unilateral Hæmatocolpos. The patient, aged 16 years, had menstruated regularly and normally for two years, with a little dysmenorrhœa. For some months she had noticed a swelling at the vulva, but only at the monthly periods. Retention of urine led her to seek advice. There was a normal vaginal passage leading to a normal cervix uteri on the left side. On the right was a cystic swelling occupying the whole length of the vaginal wall and protruding from the vulva. On incising this about six ounces of dark-red inspissated menstrual fluid escaped. The right half of the uterus was also dilated, but there was no sign of a hæmatosalpinx. The vaginal septum was completely excised. The patient had menstruated normally since.—Dr. Hellier also showed a Uterus with Double Pyosalpinx. The uterine body had been amputated because both tubes and ovaries had to be removed. There was a septum extending to the os externum and completely dividing the uterus into two cavities.

Reviews and Notices of Books.

A System of Medicine, by Emi[illegible] *the United States, and the* [illegible] *OSLER, M.D. Oxon.* and [illegible] fessor of Medicine in the University of Oxford, England; Honorary Professor of Medicine in the Johns Hopkins University, Baltimore, &c.; assisted by THOMAS MCCRAE, M.D., F.R.C.P. Lond., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Vol. IV.: Diseases of the Circulatory System; Diseases of the Blood; Diseases of the Spleen, Thymus, and Lymph Glands. The Oxford Medical Publications. London: Henry Frowde and Hodder and Stoughton. 1908. Pp. 865. Price 30*s.* single copy, 24*s.* net per set of 7 vols

THE first article in this volume deals with general considerations in cardio-vascular disease and is contributed by Dr. Charles F. Hoover of Cleveland, Ohio. The general physiology of the vascular mechanism is reviewed and the effects of disease are briefly considered. It is stated that the auricle is capable of throwing a wave of blood into the aorta, and this statement is supported by reference to some records made by Gerhardt, to the experimental work of Hurthle, and to personal observations of the writer of the article in a case of pulsus bisferiens, but we are hardly convinced by the brief evidence here given. The myogenic and neurogenic theories of the cardiac rhythmicity are carefully enunciated, and Dr. Hoover, in his discussion, appears to hold an even balance between them and admits that the problem is unsolved. On the whole, this article is somewhat rambling in character, and, though it contains some valuable information, it is as indefinite in substance as in title.

An admirable article on diseases of the pericardium by Dr. A. McPhedran of Toronto gives a full and interesting account of the various forms of pericarditis and the other morbid changes occurring in that structure. The descriptions of adherent pericardium and of tuberculous pericarditis are much more complete than those usually given in text-books on medicine, and contain some valuable practical hints as regards diagnosis. The descriptions of hæmo-pericardium and pneumo-pericardium are also worthy of notice. Diseases of the myocardium are dealt with by Dr. Robert H. Babcock of Chicago in a well-written and carefully arranged article. The various forms of acute and chronic myocardial degeneration are clearly differentiated, the etiology, pathology, and symptomatology being adequately considered. The recommendations in regard to treatment are given in some detail and are thoroughly practical. The subject of acute endocarditis is one to which Professor Osler has devoted such special attention that the article in this System contributed by him is, as might be expected, a clear and authoritative presentation of the forms and manifestations of this group of morbid processes. Professor Osler differentiates a form of endocarditis affecting patients with an old valvular lesion and characterised by chronicity and by fever, to which he applies the name of chronic septic endocarditis. Hypertrophy of the heart is exhaustively discussed by Dr. Alexander G. Gibson of Oxford. The etiology and morbid anatomy of hypertrophy are dealt with in considerable detail, and reference is made to numerous monographs and to experimental researches. A clear distinction is made between hypertrophy occurring in a normal heart and that which develops as a defence against a pathological condition. Dr. Gibson also contributes an interesting article on insufficiency and dilatation of the heart. The arrangement of the subject matter is good and the factors leading to insufficiency, both acute and chronic, are conveniently classified.

Diseases of the valves of the heart are described in an article written jointly by Professor Osler and Dr. Alexander G. Gibson, for which we have nothing but praise, since it contains admirable descriptions of the various valve lesions and their effects, and incorporates the results of recent experimental and instrumental methods applied to their elucidation. Among the interesting questions which are discussed we may mention the third heart sound and its significance, the pathological physiology of aortic regurgitation on the basis of the experimental work of Stewart, the Austen Flint and Graham Steell murmurs, and the diagnosis of combined valvular lesions. Perhaps the best part of the article is that dealing with treatment, which abounds in wise and helpful suggestions and affords within comparatively small compass a critical *résumé* of the various modes of treatment, with their indications and contra-indications.

Dr. Charles F. Hoover contributes a learned discussion of the complex subject of functional disease of the heart. His classification of the cases and his review of the various explanations given of the protean manifestations of disturbed innervation of the heart are worthy of special attention. He also discusses the pathology of angina pectoris and clearly works out its relationship to other vascular crises.

The description of congenital heart disease, contributed by Dr. Maude E. Abbott, it would be difficult to praise too highly. The history, mode of production, pathological effects, symptoms, and physical signs of the various forms are discussed in detail, copious references are appended, and useful statistics are given. The article constitutes a valuable monograph on the subject. Professor Osler's articles on Diseases of the Arteries and on Aneurysm are also both deserving of special commendation. His consideration of the causes and symptoms of arterio-sclerosis is clear and illuminating, and is charmingly written. The description of the various forms of aneurysm is exhaustive and thoroughly up to date. His plea for method and care in physical examination on the text of the well-known dictum of Jenner's that "more mistakes are made by not looking than by not knowing," we should like to draw special attention to, for it is admirable. Dr. George Blumer of New Haven, Connecticut, treats of thrombosis, embolism, and phlebitis in a learned article, which affords a useful critical summary of present opinions on these conditions. The question of the occurrence of red or white infarcts is, however, not so fully or so clearly dealt with as the other aspects of the results of vascular occlusion. The diseases of the lymphatic vessels are described by Dr. Alfred S. Warthin of Ann Arbor, Michigan. The article includes descriptions of the various abnormal conditions of the thoracic duct and is worthy of note, since greater consideration is accorded to these conditions and to their diagnosis than is usual in text-books.

The second part of this volume treats of diseases of the blood and opens with an article on the General Pathology of the Blood-forming Organs and on the Main Data of Hæmatology by Dr. Richard C. Cabot of Boston, Mass., which, though short, is a very clear and useful statement of the general principles underlying the study of the blood in disease. The same author contributes the article on Pernicious and Secondary Anæmia, Chlorosis, and Leukæmia. The description of pernicious anæmia is admirable and contains an analysis of 1200 cases. Dr. Cabot states that in regard to its differentiation from secondary anæmias, his experience is that this can be effected from the blood examination in every case. His description of chlorosis, while thorough, contains less detail and the various theories as to its causation receive but scant discussion. Dr. Cabot states that this disease is rapidly diminishing in frequency in America. In regard to leukæmia, the view is strongly emphasised that the hæmapoietic system is not sharply differentiated into lymphoid and myeloid elements, but is essentially a single system, and thence is deduced the essential identity of all forms of leukæmia; for convenience of description, however, they are divided into three groups —myeloid, lymphoid, and atypical. Dr. Cabot doubts the existence of mixed forms and deprecates the manufacture of special names, such as leukanæmia, to designate certain atypical forms. Dr. Joseph H. Pratt of Harvard contributes a useful article on Purpura and Hæmophilia.

The third part is devoted to Diseases of the Spleen, Thymus, and Lymph Glands. In an article on diseases of the spleen Dr. Irving Phillips Lyon of Buffalo, New York, discusses the physiology and pathology of the spleen and describes the conditions of splenic anæmia and kala-azar. Dr. Warthin deals with diseases of the thymus and of the lymphatic glands. The features of enlargement of the thymus and its association with the conditions of thymic asthma and thymic death are exhaustively discussed.

This volume constitutes a very noteworthy addition to the list of medical works of reference and reflects great credit upon the editors and their collaborators.

Experimental Embryology. By J. W. JENKINSON, M.A., D.Sc., Lecturer in Embryology in the University of Oxford. Oxford: The Clarendon Press. London: Henry Frowde. Pp. viii.-341, with 167 figures in the text. Price 12*s*. 6*d*.

EXPERIMENTAL embryology, or, as some prefer to call it, mechanics of development, or physiology of development, is a comparatively new branch of biological science, and may be said to date from the time only a few years back when

Wilhelm Roux succeeded in producing a half-embryo from a half-blastomere. Growth and division of nucleus and of cell always accompany differentiation, but the production of a new form out of a relatively simple germ, comparatively structureless and unformed, and the gradual passage of this into a new individual which is like its parents, "that is the marvel which has excited the wonder of the observer and demands all his wit to understand and to explain."

In a short introduction to his "Review," as the author modestly terms his work, he acknowledges his indebtedness to an excellent model in the "Text-book" of Korschelt and Heider, published in 1902, and he gives both here and in a concluding chapter an interesting account of the views and speculations of Aristotle and others on the problems of development. In 1874 Professor W. His compared the various layers of the embryo of the chick to elastic plates and tubes; but Davenport recently carried the subject from the morphological side much further. The author incorporates part of the work of Davenport. His in 1874 not only sought a mechanical explanation of differentiation, but according to his principle of "germinal localisation" every spot in the blastoderm corresponds to some future organ—i.e., although the parts of the embryo cannot be said to be preformed in the germ, the materials for those parts are already there. Unequal growth produces the form of the parts, and so of the whole body. Wilhelm Roux raised this principle of His to the rank of a theory, which has been called the "Mosaik-theorie," or theory of self-differentiation.

The author proceeds to inquire what are the internal, and what the external, conditions that determine the course of development. As cell-division is the first—or almost the first—sign that a developing organism gives of its activity, he discusses what is known of those factors which determine the direction of division in general, and in particular the pattern of segmentation. There are several types of cell-division: (1) radial—e.g., that observed in sponges, echinoids; (2) spiral cleavage, as in molluscs and some worms; (3) bilateral, as in some fishes; and (4) irregular, as in turbellarians. Hertwig's experiments on the effects of compressing the eggs of frogs between plates of glass are quoted, and many others, such as those of Driesch on echinoderm eggs. It would appear that many of the patterns exhibited by eggs with a spiral cleavage are explicable by reference to the laws of surface-tension.

There is a short chapter on "Growth," after which the author comes to the external factors which affect the development of an egg, and he deals successively with the following points: 1. Gravitation. In many cases this has no effect; but there are some instances where it affects development. 2. Mechanical agitation. Pelagic ova afford instances in which this may be considered. The hen's egg requires a small amount of movement; the hen turns her eggs every day, and in artificial incubation this must be done, else, as Dareste has shown, the allantois sticks to and ruptures the yelk sac in unturned eggs. Violent agitation of a hen's egg is fatal. 3 and 4. Magnetism and light. These do not seem to exercise a directive influence generally, though certain qualities of light injuriously affect development of certain ova. 5. Heat. This, of course, is important. O. Hertwig has made a careful investigation into the conditions of temperature for the development of frogs' eggs. The normal temperature here is from 15° to 16° C., though the optimum is somewhat higher, and it is of no small importance to observe that the definitive distribution of specific substances in the unsegmented egg, and so the determination of the embryonic axes, may be brought about partly at least by the spermatozoon, from its actual point of entrance along its "penetration path."

We have said enough to show the great interest attaching to the whole problem, a problem perhaps new to many English readers. To the trained embryologist we commend, not only the material part of the work, but the keen critical dissection of the very suggestive theory of Driesch and various other theories which so largely prevail in the domain of a recent but very abstruse department of natural knowledge. Apart from the formation of "monsters" under very abnormal conditions, great interest attaches to the study of "variations," "sports," "mutations," by varying these external factors, and the problem that confronts the experimentalist is to determine the part played by each factor of the external environment.

About one half of the book is devoted to the "Internal Factors." The author begins with "The Initial Structure of the Germ as a Cause of Differentiation," and later there is a short but interesting chapter on the action of the parts of the developing organism one on another. The former is considered very elaborately, for nearly all groups of the animal kingdom are passed in review, from amphibia to cœlenterata. This is the part that is of the greatest interest to the specialist. The author gives a careful *résumé* of the conclusions and considerations to be drawn from an elaborate series of experiments, one of the most important deductions being that the cytoplasm of the undeveloped ovum is not homogeneous and "isotropic," as was suggested by E. Pflüger in 1883, but heterogeneous and "containing various specific organ-building stuffs which are definitely and necessarily connected with the production of certain parts or organs of the developing animal" (p. 240). The removal of these "stuffs" entails the absence of the corresponding organ later.

This is a thoroughly interesting book.

Injuries and Diseases of the Knee-joint considered from the Clinical Aspect. By Sir WILLIAM H. BENNETT, K.C.V.O., F.R.C.S. Eng., Consulting Surgeon to St. George's Hospital and to the Hospital of St. John and St. Elizabeth; Senior Surgeon to the Seamen's Hospital, Greenwich. With 34 illustrations. London: James Nisbet and Co., Limited. 1909. Price 4*s.* 6*d.* net.

THE largest joint in the body is extremely liable both to disease and injury, and in both cases the importance of the condition is so great as to justify the devotion of a volume to their consideration. And we know no surgeon better qualified than Sir William Bennett to write such a book, while we are glad that he has taken for discussion the various lesions from their clinical aspect only, for by doing so he has increased the practical value of the work materially by giving it a well-defined scope.

A short description is given of the normal knee, and the importance of the ilio-tibial band is pointed out; two skiagrams, showing the joint in extension and flexion, demonstrate clearly how little protection the patella affords against wounds from the front, for in all positions of the joint a considerable area of the synovial membrane is vulnerable both above and below the patella. In the treatment of acute effusion into the joint, whether hæmorrhagic or serous, the author is opposed to the application of ice, and he quotes a case in which the application of an ice-bag to an injured knee was followed by sloughing of the skin over the patella. Ice relieves somewhat the pain in effusion, but he has come to the conclusion that hot compresses are preferred by most patients, and the local effect is better. He points out that the mere tension of an acute effusion may send the temperature up to 103° F. For this acute pain he advises gentle shampooing with a very light hand; he has found that patients, restless and irritable from pain, can be sent to sleep sometimes in a few minutes in this way. He is opposed to complete immobility in these cases of acute effusion, and as soon as the tension begins to lessen he advises gentle movement of the joint by the patient. This gentle movement, he considers, favours absorption and prevents adhesions.

An important chapter is that on painless effusion into the knee-joint. It is by no means a rare condition, but very little about it has appeared in print. Sir William Bennett has seen it mainly in women and girls, and in most cases there has been marked menstrual or uterine trouble, and often anæmia. A slight injury to one knee may draw attention to marked effusion, but on examination it will be found that the other knee also contains fluid. The re-establishment of menstruation or the correction of the abnormality is in many of the cases followed by disappearance of the fluid. The condition may occur in boys, and Sir William Bennett thinks that here it is generally associated with phimosis or some other affection of the external genital organs, when if this be remedied recovery follows. We have not met with any such suggestion previously, but it is of great interest and importance, and it should not be difficult to obtain evidence on the point. The medical officers of schools would be in the best position to test the accuracy of the existence of such an association.

The chapters dealing with what has been called "internal derangement of the knee-joint" are of much interest. As to its frequency the author has found damage to the semilunar cartilages in nearly two-thirds of all cases of affection of the knee consequent on injury. The left knee was more than twice as frequently affected as the right. The injury done to the cartilage may vary greatly. In some cases it is merely bruised, but the consequent swelling is sufficient to prevent complete extension of the joint. Absorption may remove the blood and serum effused into the cartilage, but sometimes it is necessary to remove the swollen cartilage, as in one case detailed in the book. In other cases where a displaced cartilage has not been returned to its rightful position it tends to become sodden and felt-like, and this condition is doubtless favoured by the constant grinding pressure to which it has been subjected during movements of the joint; inflammatory processes are set up and it becomes difficult to recognise the tissue as the fibro-cartilage. Sir William Bennett points out that in recurrent displacement the following points will generally be noticed: 1. The tendency to recurrence is in direct proportion to the looseness of the knee-joint and the wasting of the muscles of the thigh. 2. With repeated attacks the effusion gradually tends, in most cases at least, to diminish in quantity with each attack until it may no longer be seen. 3. The severity of the injury necessary to produce the symptoms diminishes with successive attacks. 4. In a certain proportion of cases the occasional recurrence of effusion with a feeling of weakness is the only symptom. 5. In course of time in some cases the attacks, though frequent, may cause so little inconvenience, and the displaced cartilage is so readily reduced, that little or no disability arises. 6. If the displacement of the semilunar cartilage is into the intercondylar notch all symptoms of abnormality may disappear.

The treatment advised by the author is this: The displaced cartilage must be reduced as soon as possible, and the joint is then to be kept at rest until the effusion has gone, massage of the muscles and the knee being very useful in assisting the absorption of the fluid. This early massage also checks the rapid muscle waste. The disappearance of the effusion rarely takes more than a week and then movements may be begun, but rotation must be avoided. The massage must be continued for a period of from three weeks to six months. So long as the thigh muscles are wasted or the capsule is loose, massage must be continued. When treatment fails operation is indicated, but Sir William Bennett thinks that if the early treatment is correctly carried out operation is needed in only a small proportion of cases. The cases in which operation is clearly indicated are, firstly, those in which non-operative measures have conclusively failed; secondly, those in which general flaccidity of the joint, as shown by an abnormal amount of lateral movement upon manipulation, is in excess of the other symptoms; and, thirdly, those in which a speedy cure is urgently called for by special circumstances. The incision preferred by the author is longitudinal, commencing above about half an inch from the edge of the patella at its centre and extending downwards to a little beyond the line of the articulation, and he maintains that this incision gives ample room for every purpose. He lays great stress on the importance of never operating while there is fluid in the joint.

We have examined particularly this section of the work, as it is one which is of special interest at the present time, for more attention is now being paid to abnormalities of the fibro-cartilages of the knee than hitherto, as it is being recognised that many obscure pains in the knee are associated with slight injuries of the cartilages. In the remaining chapters of the volume, we may say that we have been impressed by the evidence of Sir William Bennett's intimate acquaintance with his subject, so that we feel sure that the book will be valuable to all who have to deal with injuries or diseases of the knee-joint, both to general practitioners and to those who are operating surgeons. The wide experience of the author supplies principles and details from which all may derive benefit. The book contains many illustrations, including a number of skiagrams which help to make its reading and comprehension easy.

Manuel de Thérapeutique Clinique des Maladies Tropicales. Par le Dr. A. GUILLON, Medecin-Major de 2e Classe des Troupes Coloniales; Professeur-adjoint à l'École d'Application du Service de Santé des Troupes Coloniales. With illustrations in the text Paris: Octave Doin et Fils. 1909. Pp. 387. Price 7 francs.

THIS work on the treatment of tropical diseases is written by a French military medical officer for practitioners on land or sea in tropical regions, more especially for those living in isolated places where books of reference are not available. It forms a very compact and practical text-book, omitting historical and bibliographical reference, but embodying very full therapeutical and other treatment; and, what is more important, it furnishes prescriptions recommended by recognised authorities on the treatment of tropical diseases, amongst whom we note the names of Sir Patrick Manson and several officers of the Royal Army Medical Corps and Indian Medical Service. The first chapter covers Asiatic cholera, yellow fever, and plague. The Roux-Yersin serum, as employed in the French colonies, is recommended for the treatment of the last-named disease In the section dealing with the treatment of dysentery the advisability of the surgical treatment of very chronic forms of the disease is well described, and the establishment of an artificial anus at the level of the cæcum is recommended to allow the large intestine to obtain rest and to be washed out. Manson's treatment on the same lines is mentioned. The treatment of tropical liver abscess is also well described. Kala-azar, a disease in which considerable interest has been aroused recently, is well, though somewhat briefly, described. Its geographical distribution is laid down as covering India, China, and Tunis. Experimental treatment by atoxyl in large doses is recommended, and from the fact that the Tunisian parasite has been found in dogs the possibility of a curative serum derived from this source is suggested. The treatment of tropical skin diseases is fully described. We notice the application of balsam of Peru in the treatment of itch is regarded as an efficacious one, and a complimentary reference is made by the author to the officers of the Royal Army Medical Corps who introduced this specific treatment. The treatment of the two forms of bilharzia disease, intestinal and urinary, deserves mention, as well as the sections dealing with bites of snakes, scorpions, and poisonous insects Ptomaine poisoning from eating poisonous meats, fish, and vegetables is very fully described and suitable lines of treatment laid down. Beri-beri, elephantiasis, sunstroke, heat-stroke, and other pathological conditions met in the tropics, are embodied in the concluding chapters.

The book can be recommended confidently to medical men practising in the tropics.

LIBRARY TABLE.

Suture of Arteries, an Experimental Research. By E. ARCHIBALD SMITH, M.B., Ch.B. Vict., F.R.C.S. Eng London: Henry Frowde and Hodder and Stoughton. 1909. Pp. 70. Price 2s. 6d.—The suture of arteries is assuming an important position in surgery, for on its performance depends the practicability of some of the most recent suggestions in plastic surgery, such as the transplantation of organs. Even in mere wounds of vessels it is not without great value, for to be able to suture a wounded artery would greatly diminish the risk of gangrene of a limb. It is not without interest to note that the first successful attempt to suture an artery was made exactly 150 years ago, for in 1759 Lambert of Newcastle devised, and Hallowell put into practice, the suture of an artery which had become the seat of a traumatic aneurysm. The idea was revived by Gluck in 1881 and many experiments have been made since, with more or less success. The cases in which arterial suture has been performed in man are few; in 1903 Jensen was able to collect eight cases, and Mr. E. A. Smith has added 12 others. This little book contains an account of a number of experiments on animals performed in Vienna with the view of discovering the most suitable form of arterial suture. Mr. Smith goes through the methods hitherto employed, and then describes that which he himself considers to be best. This is a form of quilled suture, in which a small piece of catgut takes the place of the quill. For a longitudinal wound of a vessel this suffices, and it is also suitable for end-to-end suture, in all cases the edges of the wound being turned outwards so as to bring intima into contact with intima. For longitudinal wounds it might be thought that some narrowing of the vessel at the site of the suture might occur, but we are told that in practice this is barely noticeable, and Mr. Smith thinks that the narrowing is not permanent. For the more easy practice of this method of suture he has devised several ingenious instruments. The special merit of this form of quill suture is that it shows little or no tendency to cut out. The author holds that if an artery be carefully sutured there is a *restitutio ad integrum*, for new elastic and muscle fibres form in the scar and it is lined internally by normal endothelium. A chapter on the histology of the cases is given, and the list of references to papers on the subject should prove useful to future investigators.

Aids to Medicine. By BERNARD HUDSON, M.D. Camb., M.R.C.P. Lond., Assistant Physician to the City Road Chest Hospital; Pathologist and Registrar to the East London Children's Hospital; late Casualty Physician to St. Bartholomew's Hospital. London: Baillière, Tindall, and Cox. 1909. Pp. 252. Price, cloth, 3s. net; paper, 2s. 6d. net.—The object of this little handbook is to supply the student with a book for revision purposes of a convenient size to carry in his pocket, and, as stated by the author, it is not in the least degree intended to serve as a substitute for any of the many excellent text-books on medicine. It is an admirable little "cram" book, and as such books appear to be an unavoidable feature of modern medical education, this one may be recommended, for it may well prove useful to fortify students' memories just before they are to be tested by final examinations in medicine. The type is good, there is a good index, and practically the whole of modern medicine is well and concisely covered.

A Practical Course of General Physiology for Medical Students. By D. NOEL PATON, M.D. Edin., F.R.C.P. Edin., Professor of Physiology, University of Glasgow; and G. HERBERT CLARK, M.B. Glasg., D.P.H. Edin., Muirhead Demonstrator of Physiology, University of Glasgow. Glasgow: James Maclehose and Sons 1908. Pp. 39 Price 1s. net.—In order to encourage accurate observation and correct interpretation of the results obtained by simple physiological investigation, the authors have prepared a syllabus giving directions for the performance of a series of experiments to illustrate the chief properties of living tissues without indicating the results likely to be obtained. It is directed that the experiments shall be carried out before the student attends lectures on the subjects he is working at. The book is interleaved to enable him to record his results, and the directions given are full, clear, and sufficient. The subjects to be worked at include the properties of protoplasm, muscle, nerve, reflex actions, the senses, the circulation, and respiration. The idea is a good one, and it should serve to render the course of practical physiology a more useful training than where the student strives after an expected result.

Arterio-sclerosis: Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment. By LOUIS M. WARFIELD, A.B., M.D. With an introduction by W. S. THAYER, M.D. With eight original illustrations. St. Louis, Mo.: C. V. Mosby Medical Book Co 1908. Pp 165.—The condition of arterio-sclerosis, although in the strict sense a pathological condition of the blood-vessels, with a varied etiology and a complex symptomatology depending largely upon the distribution and degree of its incidence, is described by the author as a clinical entity. He lays stress upon the frequency of the occurrence of early arterial degeneration and its association with the conditions of hard work, worry, and high living. Without being discursive he gives a general account of the condition and of its clinical manifestations in clear and simple language. Treatment is discussed in some detail, and especial emphasis is laid upon the importance of early recognition and of the carrying-out of measures to prevent the advance of the pathological process. Dr. Warfield would like to see men and women past the age of 40 submit themselves to a routine medical examination twice a year in order to find out if they are in sound health. Such a proceeding, if generally adopted, would no doubt serve the useful purpose of drawing attention to the importance of care in regard to their mode of life in many persons who, without apparently suffering, overtax their powers, and who eventually come for treatment only when irreparable damage has been done.

JOURNALS AND MAGAZINES.

The Edinburgh Medical Journal.—In the May issue Dr. Byrom Bramwell discusses the teaching of medicine at Edinburgh and points out the existence there of the malady from which London is equally suffering—the multiplication of lectures and consequent lack of time for clinical observation. He even suggests the abolition of so-called clinical lectures, which are seldom instances of really valuable clinical teaching. Mr. A. Logan Turner writes on orbital complications of suppuration in the frontal and ethmoidal sinuses; and articles dealing with renal decapsulation as a treatment of puerperal eclampsia are contributed by Sir J. Halliday

Croom, Dr. R. C. Buist, and Dr. H. Oliphant Nicholson. Notes of cases of removal of foreign bodies, intentionally swallowed, from the alimentary canal are recorded by Mr. J. Hogarth Pringle and Mr. Alexis Thomson.

The Dublin Journal of Medical Science.—An interesting paper on atrophy of the testicle, written by Dr. Charles Greene Cumston, is published in the May number of this magazine. Mr. F. Kennedy Cahill discusses the causes of the collection of gas in the stomach and the treatment to be adopted in different forms of the disorder, and Mr. W. I. de C. Wheeler writes on local anæsthesia in minor surgery and its relation to reactionary pain. Dr. W. R. Dawson considers the Irish recommendations of the Royal Commission on the Care and Control of the Feeble-Minded.

The Birmingham Medical Review.—The existence of apparently healthy persons who yet act as "typhoid-carriers" and spread the infection of this disease has been much discussed recently, and any light that can be thrown on the question is of value. In the March issue of this journal Dr. J. Miller discusses some recent investigations on this subject and records a case of his own in which the bacilli were found, not only in the gall-bladder, but also in a necrotic area of the liver. It would appear that infection of the bile-passages is effected through the blood stream. In the same number Dr. W. A. Potts discusses the causes which lead to the birth of feeble-minded children, among which maternal intoxication, either by alcohol or infective diseases, appears to be pre-eminent.

ERRATUM.—In our review of the collected papers of Lord Lister which appeared in THE LANCET of June 5th, p. 1603, the price of the book, owing to a slip on the part of the reviewer, was given as "£2 2*s.* each volume." It should have been £2 2*s.* net the set.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, JUNE 1ST.

THE General Medical Council resumed its sittings to-day at the offices of the Council, 299, Oxford-street, W. The President, Sir DONALD MACALISTER, occupied the chair.

Dental Surgery Licences.

The Dental Education and Examination Committee submitted the following report:—

> A letter has been received from an educational body, the Incorporated Dental Hospital of Ireland, calling attention to a certain difference existing between the requirements of the several bodies granting licences in dental surgery. The recommendation of the General Medical Council, which is to be found in the regulations for the registration of medical and dental students, 1903, p. 18, is "One year *bonâ-fide* apprenticeship with a registered dental practitioner, after being registered as a dental student, may be counted as one of the four years of professional study." It appears that the Royal College of Surgeons of England allows two years of such study to be counted towards the four years of the curriculum, but that the other licensing bodies only allow one year to be so counted. As from the printed regulations the actual practice of some of the bodies is not obvious, inquiries have been made by the Registrar and answer received. The regulation (2) of the Royal College of Surgeons is "of having been engaged during a period of not less than two years, in acquiring a practical familiarity with the details of mechanical dentistry under the instruction of a competent practitioner, or under the superintendence of the mechanical department of a recognised dental hospital, where the arrangements for teaching mechanical dentistry are satisfactory to the Board of Examiners in Dental Surgery."

Mr. HENRY MORRIS referred to the recommendation of the General Medical Council—namely, that "one year *bonâ-fide* apprenticeship with a registered dental practitioner, after being registered as a dental student, may be counted as one of the four years of professional study." If only one year of professional study might be counted, then the curriculum became a five years' curriculum or else the period passed in a dental hospital had three years allotted to its final stages, which was one year longer than was required. It is allowed by those who are best acquainted with the actual practical work that two years for general and surgical subjects are sufficient, but that two years are required at least for education in mechanical dentistry. The requirements of the General Medical Council are that there should be two years at least of training in mechanical dentistry and that there should be a four years' curriculum, thus requiring that either the whole of the two years of training in mechanical dentistry must be passed in a dental hospital or else that the curriculum becomes one of five years. The Royal College of Surgeons of England are convinced that the education in mechanical dentistry which students got under a proper director in the hospital was infinitely superior to that which they got as apprentices of dental practitioners throughout the country. The aim and object of the College was by degrees to make the whole period four years, including two in mechanical dentistry to be passed under the direction of the hospital. That was the reason why in 1906 they changed the requirement of three years' practice in mechanical dentistry to two years, because they hoped if it was reduced to two years those two years would be passed in a dental hospital. And that is really the tendency at the present time. But the time has not arrived when that can be done, for the reason that there is not provided in all places where dentistry is taught in this country sufficient laboratory accommodation for the education in mechanical dentistry for all students who are training. The hope of the Royal College of Surgeons is to get the two years included within the four years' curriculum because more than two years for general work are not required.

The report was adopted.

Mr. MORRIS moved—

> That the report of the Dental Examination Committee be communicated to the Royal College of Surgeons of England with such observations as it may be desired to offer.

Sir CHARLES BALL seconded.

The motion was agreed to.

Penal Cases.

The Council resumed consideration of a charge against Robert Galbraith Reid, registered as of 202, Ewell-road, Surbiton, M.B., Mast. Surg. 1887, Univ. Glasg., who appeared before the Council in answer to a summons.

The Council came to the conclusion that the facts alleged in the notice of inquiry had not been proved.

Report of the Education Committee.

The next business was to receive a report from the Education Committee on various proposals submitted to it referring to the curriculum in medicine. At the suggestion of Dr. NORMAN MOORE an understanding was come to to defer the discussion of the details of the report until the November session, when it would be given a foremost place in the programme of business.

Dr. MACKAY, the chairman of the Education Committee, then moved that the report should be entered in the minutes.

Mr. THOMSON moved as an amendment that the report should also be circulated to the licensing bodies for their information.

Mr. MORRIS, in seconding the amendment, remarked that it would be well if the licensing bodies considered the report before the Council came to a final decision.

Dr. MACKAY replied that if the Council were proposing a very drastic change in the Regulations and were not sure of opinion on the matter it might well go to the licensing bodies for suggestions. However, it was now proposed to add to the recommendations and not to the requirements of the Council. All the facts and figures had been before the bodies.

The amendment was rejected on a show of hands.

The motion that the report should be entered in the minutes was agreed to.

The report deals with various proposals submitted to the committee for consideration. In it it is stated that the committee does not recommend the exclusion of chemistry, physics, and biology from the curriculum of medical studies and their transfer to a preliminary stage. Further, the committee does not recommend at the present the addition of a year to the curriculum in medicine.

In a concluding portion of the report the following passage appears:—

The committee believe that a period equivalent at least in time value [illegible]

It will be seen that the proposal implies that in cases where there is no overlapping the undivided study of the Final subjects must be begun, when the minimal course is to be followed, in the middle of the third year In many of the licensing bodies the completion of the examination of the first period does not take place until this point has been reached It is however the practice among these bodies *to commence the work for the Final* Examination at the beginning of the third year In the cases referred [illegible]
course i[illegible]
overlapp[illegible]
months' [illegible]
Period

When the work for the Final Examination begins at the commence [illegible] ompletion of the [illegible] ccording to the [illegible] will necessitate [illegible] The subjoined [illegible]

Date of commencement of work for final examination	Date of completion of examination in anatomy and physiology Months	Length of period of study for final examination Months				Total length of curriculum Months
		Overlapping study	Undivided study	Total	Equivalent value of total	
Beginning of third year	*30*	6	27	33	30	57
„	36	12	21	33	27	57
„ „	42	18	18	36	27	60
„ „ „	48	24	15	39	27	63
Middle of third year	30	—	27	27	27	57
„ „ „	36	6	24	30	27	60
„ „ „	42	12	21	33	27	63
„ „	48	18	18	36	27	66
Beginning of fourth year	36	—	27	27	27	63
„ „ „	42	6	24	30	27	66
„ „ „	48	12	21	33	27	69

It is obvious however that if the work for the Final Examination be commenced in the course of the second year of the curriculum the penalty for delay in passing the First Period Examination might be avoided in whole or in part The [illegible]
limit for the second period necessitat[illegible]
regard to the first period The nat[illegible]
in the case of the first period subjects a minimum limit of study [illegible]

[illegible] :—

Reappointment of Registrar

Mr H E ALLEN was appointed Registrar

Vote of Thanks

On the motion of Dr NORMAN MOORE a vote of thanks was awarded to the President for his services in the chair

The summer session then came to an end, the Council adjourning until November

MEDICINE AND THE LAW.

Fergusson v *the Malvern Urban District Council*

IN THE LANCET of Feb 15th, 1908, p 517, we congratulated Dr J C Fergusson upon the recovery of damages against the Malvern urban district council in respect of the pollution of water used at the hydropathic establishment conducted by him, which caused an outbreak of enteric fever among its inmates At the same time we indicated certain points upon which there had been findings of fact by the jury, and as to the legal bearing of which argument in the Court of Appeal was likely to follow The jury found that the defendants, the Malvern district council, were guilty of negligence in permitting sewage to escape from their sewer and to contaminate certain water which the plaintiff made use of for his establishment, and they also found definitely that this contamination of water by sewage was the cause of the outbreak of fever, and not, as was suggested, defects in the plaintiff's drains The first two questions put to the jury were, however, (1) Had the plaintiff any proprietary right in the water flowing from the Tudor *well to his tank ?—to which the answer was in the negative ;* and (2) Had the plaintiff any licence from the owner to use the said water ? To this also the answer "No" was returned, and it must be added that all the questions thus put were agreed between the counsel for the parties as embodying the issues of fact at stake In these circumstances it will readily be seen that the legal right to compensation claimed by Dr Fergusson was open to grave doubt The water was polluted by sewage through negligence on the part of the defendants, but they did not supply him with it *for drinking or for any other purposes, and they were not* aware that he was taking it In the terms of the questions and answers quoted he had no proprietary right in the water, and those who had such right had given him no licence to use it The Court of Appeal decided that the findings in question were fatal to the plaintiff's case and deprived him of the judgment obtained at the trial, summarising the point as to the mutual position of the parties in a decision which has now been upheld by the House of Lords In giving judgment on May 23rd the Lord Chancellor said that the real question was whether there was a lawful enjoyment of the water by the plaintiff, that the jury had negatived any such enjoyment, and that strict justice had been done by the judgment of the Court of Appeal Lord Macnaghten concurred Lord James of Hereford referred to the damage undoubtedly suffered by the plaintiff, but did not consider that he had any chance of establishing his case on a new trial Lord Shaw was equally unable to say that there should be a new trial, although he expressed some doubt as to whether the question of the lawful enjoyment of the water had been clearly put to the jury It is to be regretted that Dr Fergusson, in addition to the *grave losses already sustained* by him, should have to bear the heavy cost of unsuccessful and protracted litigation

THE CAMBRIDGE SCIENTIFIC INSTRUMENT COMPANY —In THE LANCET of May 15th (p 1427) we described briefly Einthoven's string galvanometer, which was exhibited by Professor A D Waller at the recent conversazione of the Royal Society, and in our issue next following (p 1448) we published a paper by Professor Waller describing Einthoven's recent electro cardiographic researches Physiologists and others should know that the very delicate string galvanometer which forms the chief part of Einthoven's apparatus is being made in this country by the Cambridge Scientific Instrument Company, Cambridge

THE LANCET.

LONDON: SATURDAY, JUNE 12, 1909.

National Control over the Purity of Foods.

AT the International Congress of Applied Chemistry, which concluded its multifarious activities last week, a useful series of papers on chemical and technical questions relating to the purity of food were contributed to the section which went by the hitherto unfamiliar term of "Bromatology." The section devoted two meetings to a discussion on National Methods of Food Control, and another to Food Standards. Dr. W. H. WILEY gave an interesting and characteristic address on the origin and progress of the "pure food" movement in the United States, in which he has played so prominent and distinguished a part. Dr. EUGÈNE ROUX and Dr. F. BORDAS described the important administrative organisation for the repression of fraud and falsification in articles of food, which is rapidly being developed in France under their direction as a result of the legislation of 1905; and Dr. A. MCGILL showed the progress made in the same direction in Canada by methods which are based partly on American and partly on British experience. Dr. WYSMAN and Dr. VAN RHYN expounded the system in Holland, by which trading associations and the State work together in a system of supervision over the production of unadulterated butter and other articles. Dr. G. S. BUCHANAN undertook the task of summarising British legislation and administrative methods, while the Italian, Belgian, and Swiss organisations for controlling the purity of food were also explained by representatives of these countries.

As might be expected in a discussion from the point of view of applied chemistry, attention was chiefly directed to two of the many ramifications of the question of "pure food"; viz., the protecting of the consumer against the introduction into foodstuffs of deleterious or poisonous substances, and the providing of him with security that the article which he buys corresponds within reasonable limits to the description given of it. The earlier attacks on food adulteration were naturally concentrated to a large extent on the first of these questions. It was then found that dangerous substances were being employed which could readily be detected by the analyst and which no one could be found openly to defend: red lead in pepper, Scheele's green in sweets, and many other examples could be given. In this country the Sale of Food and Drugs Act of 1875, with its machinery of sampling and public analysis, practically put an end to such practices, and we owe it to the efforts of WAKLEY, HASSALL, and other reformers of the period that England took a lead among nations in this respect. The questions which demand attention at the present time are considerably more complicated, and in dealing with them administrative and economic considerations become at least as important as the determinations of the analyst The case of preservatives is a familiar example of the complexity of the matter where the introduction into foods of potentially injurious substances is concerned. All countries are not at present prepared to adopt Dr. WILEY'S view that any preservative substance, other than traditional articles like salt and wood smoke, ought to be entirely prohibited in every food. They are disposed rather to compromises which admit certain specified preservatives in particular cases under strict regulations, while excluding them in instances where no sufficient commercial necessity for their employment can be shown, and no compensating advantage would be gained by the public if their use is permitted. The complexity of pure food "control" is even more strongly illustrated by discussions on means for preventing inferior substitutions and "imitation" articles being passed on to the public as "genuine" products. The difficulties which are met with in obtaining uniform action in this matter are well known to those who have experience of the working of the English Sale of Food and Drugs Acts. The discussion at the Congress showed that in our colonies and in foreign countries the same difficulties are being actively met by the prescription of "pure food standards" and *definitions of* genuine products, and by measures which *supplement* or supersede a system of control, based on analysis of samples sold by retail. These form a systematic check over the proceedings of the food manufacturer or importer, and so *fix* in the right quarter the *responsibility* for the description which is given to the article sold. In France this is being done for special classes of foods by a series of administrative regulations made under the recent pure food law of that country. In such cases, for example, as the sale of pure olive oil and of mixtures of olive oil and cotton-seed oil, or of Cognac brandy and mixtures of Cognac with other spirits, the regulations leave no doubt as to the *obligations of the trader* at every stage, and are enforced by a special service which has the aid not only of chemical research but also of trade experts. We are glad to note that there seemed to be a general agreement among English speakers in favour of centralised action in similar directions in the United Kingdom. It would no doubt involve an addition to the benevolent bureaucracy of Government departments of which Mr. JOHN BURNS has lately spoken with so much approval, but after all if questions such as these are required to be settled they are essentially questions for the bureaucrat, provided he obtains the best expert advice and hears all sides. The Local Government Board has lately usefully exercised its "bureaucratic" powers by supplementing the action of local authorities under the Public Health Acts by special regulations relating to imported foods, and it seems very desirable that the same kind of proceeding should be followed in connexion with local administration of the Adulteration Acts.

Many of the subjects which were reviewed at the discussion referred to had, of course, little direct medical interest. People need not be poisoned when they eat articles sold to them as chocolate which are practically innocent of any acquaintance with the cocoa bean, raspberry jam which is largely apple pulp, brandy which is three parts grain spirit, or vinegar which is mainly a solution of commercial acetic acid. The inferior article is often deficient in food value or in flavour, but the harm done to the consumer in many cases is principally that he is induced to pay more than the imitation article is worth on the strength of the reputation which the genuine article enjoys, while the maker of the latter often becomes driven by the competition of the inferior product to debasing the quality of the higher-class material. The fair position in cases of this kind seems to be that which has been elaborated in our butter and margarine legislation. Here are two products of different origin, one the "natural" and the other the "imitation," which may be practically indistinguishable to the ordinary purchaser, and between which there is usually little to choose in regard to wholesomeness or nutrient value. They are, however, required to be distinguished as separate articles of commerce, and as a result the imitation article has improved in quality and has a large and legitimate sale at a price which is certainly cheaper than would be the case if the distinction had not been insisted on by law and margarines had been allowed to compete with butter under the same or a similar name. The adoption of this principle has been to the advantage of the purchasing public, and particularly to the poorest members of the community, and in a broad sense is to the advantage of public health. It deserves to be remembered, however, that butter and margarine legislation in this country was largely brought about by the determination of the traders affected to act together in their own interests. This consideration is sometimes lost sight of by manufacturers of other foods, who are aggrieved by what they consider to be the malpractices of their competitors, and complain of the inadequacy of the law and the inactivity of public authorities. A particularly instructive part of the discussion was that which showed the active coöperation which takes place in some foreign and colonial administrations between the authorities and certain associations of traders, which are willing to help themselves in controlling and maintaining the purity of the foods which they prepare.

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Syphilitic Diseases of the Nervous System and the Biological Syphilis Reaction.

THE differential diagnosis of diseases of the nervous system often presents problems of great complexity, and long experience is required in order to arrive at correct conclusions. The etiological factor frequently suggests certain lesions, the correctness of the inference being proved by further investigation. One of the most important causes of organic diseases of the nervous system is syphilis, and the treatment adopted may naturally be based on the knowledge that a patient has previously suffered from that malady. It is possible, however, to lay too much stress on a history of a former venereal disease. We publish in this issue an abstract of an address on the Diagnosis of Syphilitic Diseases of the Nervous System delivered by Dr. F. W. MOTT at the clinical and pathological section of the Birmingham Branch of the British Medical Association in which attention is drawn in a forcible manner to this matter. He points out that in such a widespread disease as syphilis coincidence as well as cause is of very frequent occurrence. Therefore, as he says, in making a diagnosis the question has to be determined whether the fact that the patient has had syphilis, or even presents at the time of examination signs of active syphilitic lesions, is a coincidence, or whether it bears a direct or indirect causal relationship to the nervous symptoms of which he complains. This, however, is a problem that in many cases can only be solved by ascertaining the result of antisyphilitic treatment Again, granting that syphilis is a causal agent, the date of the primary infection will have to be ascertained, for the line of treatment to be adopted will largely depend upon the time that has elapsed since the specific sore appeared. Dr. MOTT gives as an example diffuse cerebral syphilis which occurs within four years of infection. The early diagnosis of this condition is of the most vital importance, for it is amenable to antisyphilitic treatment which if adopted in the early stages arrests or ameliorates the disease, while occasionally, though rarely, a cure may be hoped for. On the other hand, general paralysis, although of syphilitic origin, does not as a rule appear until ten years after infection, and is then not responsive to antisyphilitic remedies.

The remark that correct diagnosis is essential for satisfactory treatment is a platitude which applies to all branches of medicine. When the treatment largely depends upon one particular factor, such as the causal agent of the disease, every resource possible must be adopted in order to attempt to elicit the exact state of affairs. A progression of symptoms and an assemblage of signs frequently enable a correct judgment to be formed, but in many circumstances other methods have to be employed, chemistry and the recent developments of bacteriology holding the chief places amongst such auxiliary weapons. To be enabled to determine a syphilitic taint with certainty is obviously of prime importance, and the recent researches on the serum diagnosis of syphilis, or as it is sometimes termed the Wassermann reaction, have aroused much attention, and numerous observers have recorded their results. In THE LANCET of May 29th we published four papers on this subject written respectively by Dr. ALEXANDER FLEMING, from the Laboratory of the Inoculation Department of St. Mary's Hospital; Dr. JAMES M'INTOSH, from the Bacteriological Laboratory of the London Hospital; Dr. C. H. BROWNING and Dr. IVY MCKENZIE, of the University of Glasgow; and Mr. H. W. BAYLY, from the Bacteriological Laboratory of St. George's Hospital. In addition, we published an article on Auto-inoculation and Reinfection of Syphilis by Mr. J. HUTCHINSON. These papers form a mass of much valuable original work and tend to place upon a sound foundation a means of diagnosis which cannot but prove of the greatest assistance to the ordinary methods. Dr. MOTT, in discussing various conditions which might be mistaken for those caused by syphilis, indicates the worth of the Wassermann reaction and also of the microscopic examination of the cerebrospinal fluid. He likewise gives a description of the technique of the reaction, and therein lies one of its disadvantages—the test can only be performed by an expert worker in a well-found laboratory. Not only are the details of the method very complex, but as originally described the specific material was obtained from the liver of a syphilitic fœtus, which is obviously not always easy to procure. In order to be of general application, therefore, it is necessary that the test should if possible be simplified. A perusal of the contributions we have mentioned will show that to some extent this has already been accomplished. WASSERMANN believed that the reaction was a specific one which could only be brought about by using an extract of a syphilitic organ. It was subsequently demonstrated by LEVADITI and others that it was unnecessary to procure a syphilitic extract, as the reaction could be obtained by extracts from normal livers and hearts and many other tissues and organs. Then LANDSTEINER proved that the substances on which the test depends were of the nature of lipoids and were soluble in alcohol, so that alcoholic extracts of various organs could be well adapted for the purpose. Further, as originally performed, it was thought necessary to immunise an animal against the blood corpuscles of some other animal, such as by injecting the blood corpuscles of an ox into the circulation of a rabbit, whereby the blood serum of the rabbit became hæmolytic to the blood corpuscles of the ox by virtue of the presence in the serum of an immune body plus the normal complement. The normal complement was removed from the serum, after withdrawal from the rabbit, by heat and there was thus left in the rabbit's serum the immune body, which by itself would not dissolve the red corpuscles of the ox. The addition, however, of a small amount of guinea-pig's serum which contained complement at once restored the hæmolytic properties. This complicated procedure was somewhat simplified by BAUER, who took advantage of the fact that there exists in normal human serum a hæmolytic amboceptor for sheep's corpuscles, which did away with the use of the hæmolytic rabbit's serum, still, however, requiring guinea-pigs' blood as complement. HECHT proceeded further and employed the natural hæmolytic amboceptor for sheeps' corpuscles present in human serum, and also as his complement that present in fresh human serum. As Dr. FLEMING points out, HECHT made the serum to be tested supply the complement as well as the hæmolytic amboceptor. Dr. FLEMING, taking advantage of these observations, has perfected a technique which is more simple and better suited to clinical requirements. For a description of his process we must refer our readers to his paper, as the details are too long to reproduce here, but his method appears to us to be an advance on previous procedures.

The general adoption of the biological syphilis reaction will doubtless prove of great practical value in the diagnosis of diseases of the nervous system of doubtful origin. The conclusions already arrived at are suggestive and instructive, and further investigations will enable physicians to derive valuable information from the results obtained by their co-workers in the laboratory. As with other biological and bacteriological tests, although a marked positive reaction is of value—in the present instance it is a certain sign of a syphilitic infection—a negative result does not always indicate that no infection exists or has existed. It is singular that in primary syphilis the reaction may fail to appear. If a positive reaction has been obtained the indication naturally is that energetic antisyphilitic treatment should be at once adopted. Dr. M'INTOSH believes that sufficient experience has not yet been obtained in order either to give a definite opinion as to the influence of treatment on the reaction, or to say to what extent the reaction can be used to indicate whether sufficient treatment has been given or not, for the results obtained seem to differ in almost every case. Further investigation, then, is necessary before the amount of reliance which can be placed on the test can be correctly estimated, but the information already obtained designates the method as bearing the same important relationship to doubtful cases of nervous diseases that bacteriological tests do to tuberculosis.

Chronic Intestinal Stasis.

AT the meetings of the American Surgical Association and of the American Medical Association now being held in America two important papers have been read by Mr. W. ARBUTHNOT LANE. One of these—on the interesting subject of "The Operative Treatment of Fractures"—was read before the Medical Association and will be found published on another page of the present issue. The second, which was read before the Surgical Association, dealt with the operative treatment of chronic intestinal stasis, a condition which had not been treated by operation by anyone before Mr. LANE undertook its surgical treatment. The attention of surgeons of other countries has now been directed to his methods, and some of them have followed his example, and we summarise here his views and practice. The importance of chronic intestinal stasis runs little risk of being exaggerated. All who have studied and written on this subject freely acknowledge that the accumulation in the bowel of fæcal material is productive of most serious results, both immediate and distant, and that it deserves the careful attention and treatment of the physician, but it is only within recent years that the suggestion has been made that operative measures should be undertaken for its relief. That the large intestine is of less value than at first sight might appear is now acknowledged by many. METCHNIKOFF has suggested that to the presence of the large intestine is due much of that chronic poisoning of the whole body which hastens the onset of old age or, indeed, which may be looked upon as old age itself. To it he ascribes most, if not all, of the degenerative processes which are characteristic of old age, for on them depends that loss of elasticity of the several tissues which is its main quality. It must be acknowledged that these opinions have not met with complete acceptance by all, but nearly all agree that they are founded on a definite basis of fact. Quite independently of the work accomplished by METCHNIKOFF, Mr. LANE has been led to adopt very similar views, and he has had the courage to follow the leading afforded by the natural deductions. He had noticed both at operations and in the post-mortem room that in cases characterised by persistent and intractable constipation numerous adhesions exist within the abdomen, accompanied by malpositions and displacement of the abdominal contents, so that the displaced organs become fixed in their new situations; and from these observations he was led to conclude that the obstinate constipation existing in these cases was directly connected with the displacement of the viscera. He showed that the displacement of these organs, especially of the several parts of the large bowel, produced kinking at the flexures, with the result that the contents experience considerable difficulty in passing through the narrowed portions, while the accumulation of the fæces between the flexures led to dilatation of those portions of the bowel, and by the sagging thus occasioned intensified the sharpness of the constrictions. In this way would be produced a condition of chronic fæcal accumulation but little amenable to most, if not all, of the ordinary medicinal methods of treatment On a bowel such as this most of the purgatives contained in the Pharmacopœia would have little effect, and what small effect they might produce would last but a short time and perhaps be followed by even more troublesome constipation.

This is the condition of affairs looked at from the point of view of the peristalsis of the bowel, but its true importance is only fully recognised when we consider the effect produced by the absorption of the poisonous constituents of the intestinal contents. The true function of the large intestine is the absorption of water from the fæces. For many years the absorbent power of the large bowel was under-estimated; although nutrient enemata were regularly administered most physicians were more than a little doubtful if any large proportion of the constituents of these enemata was absorbed by the rectum. But careful observation of recent years has shown that the power of absorption possessed by the large intestine is very great; the quantity of fluid which can be absorbed by it is measurable by pints in the day. This power of absorption being acknowledged, it is practically inconceivable that, with the water which is taken up from the bowel, there should not also be absorbed many soluble substances. Now it is certain that the decomposition products existing in the large intestine are many and their quantity great. In health the short duration of the stay of the contents within the large intestine is sufficient to prevent any more than a moderate amount of absorption of these toxic products. But if for any cause the passage of the fæcal material through the bowel is delayed the amount of toxic products absorbed must be greatly increased. In civilised life there are several factors which tend to diminish the rapidity of the onward progress of the contents of the large bowel, and chief among these is probably to be put the long continuance of the erect posture in civilised life. While the savage, though standing, walking, or running for several hours a day, assumes between whiles the recumbent posture, civilised man stands or sits in an upright position for more than 16 hours a day and only assumes the recumbent posture during the time spent in bed. In the upright position the cæcum and the ascending colon are very unfavourably placed for the onward progress of their contents. The ileum pours its liquid fæces into the cæcum and gravity steadily opposes its passage onward, so that these portions of the large intestine form, as it were, a kind of cesspool, the emptying of which is irregular, and even when it occurs it is seldom complete. The assumption of the recumbent position, especially if the body is turned from one side to the other, does much to assist the emptying of the first portion of the colon, and thus it is certain that in uncivilised man the many positions assumed during the day do much to assist the intestinal peristalsis. And it is quite probable that the food of uncivilised man was more favourable on the whole as a stimulant to the bowel wall than the products of modern kitchens, though this is another point altogether. The effect on the cæcum and ascending colon of chronic intestinal stasis, however produced, is definitely harmful; the viscera undergo much dilatation, and the cæcum is forced down into the pelvis. Similar dilatation of the rest of the large intestine also follows, and according to Mr. LANE numerous adhesions form, the presence of which modifies greatly the shapes, positions, and activities of the various portions of the large intestine.

Such being the mode of production of this chronic inactivity of the bowel, we turn to the symptoms ascribed to the absorption of toxins to which the constipation gives rise. The chief symptoms are headache, a feeling of physical and mental lassitude, an inability to perform the ordinary duties of life, much mental misery and distress, and the want of control over the temper which makes these patients unhappy, and unpleasant not only to themselves but to those about them. Various nerve irritations appear; migraine and other neuralgias torment the patient, and by their presence intensify the mental discomfort from which they are already suffering. Auto-intoxication possesses still another power of harm; it has a definite effect on the resistance of the individual to the entry of harmful organisms. Mr. LANE even considers that tuberculosis may find an efficient aid in its entry into the body in the weakening effect of these intestinal toxins, and he claims that the examination of a large number of children affected with chronic tuberculous disease of joints has shown the presence in them of unmistakeable signs of auto-intoxication. Among these he includes the condition of the skin which becomes thin, inelastic, and abnormally dark. It is recognised generally that the peculiar tint of the skin in chlorosis is definitely dependent on chronic constipation, and various other changes of colour of the skin also own a similar origin. The amount of cutaneous staining varies greatly, according to Mr. LANE, with the type of individual. In light-haired patients a very advanced stage of auto-intoxication may exist and yet it may be unaccompanied by any obvious staining of the skin, while in dark-haired people the pigmentary modifications show themselves early. Other signs and symptoms of chronic intestinal stasis might be mentioned—all those, indeed, that usually mark prolonged constipation, but we will assume that the condition can be recognised, and come to the important question of treatment.

There is little room for dispute as to the facts of the absorption of intestinal products from the undue retention of fæcal material within the bowel, though opinions certainly differ widely as to the significance to be attributed to them. While some will think that the results of auto-intoxication are of the highest importance, many will be inclined to minimise the damage produced by the toxins absorbed and will be inclined to ascribe to other causes the symptoms credited by Mr. LANE to chronic intestinal stasis. It is, however, when we come to treatment that the greatest divergence of opinion will be found to exist, and it is on this portion of the subject that the novelty of Mr. LANE'S opinion mainly rests. He agrees, of course, that surgery has nothing to say until medical and mechanical methods of treatment have been tried and have failed. When, however, all the usual medical and mechanical methods for the relief of this chronic constipation have been tried Mr. LANE holds that the aid of a surgeon should be invoked, and various degrees of operative interference are recommended by him corresponding to the various degrees of severity of conditions existing. In some cases he has obtained considerable success by the mere division of constricting bands, and most surgeons who have had much experience in abdominal surgery will agree that cases do occur, though they are not common, in which a very intractable chronic constipation has yielded to the division of a constricting band. When the case is more severe, and mere division of adhesions will not suffice, Mr. LANE employs one or other of two more radical measures. The simpler of these is the division of the ileum near its attachment to the cæcum, and its transplantation to the sigmoid flexure, so that the intestinal contents no longer traverse the whole of the large bowel, but take a shorter route and pass only through a portion of the sigmoid flexure and the rectum. The more liquid nature of the fæces is sufficient to prevent any accumulation, and the previously troublesome constipation disappears at once, and with it, Mr. LANE tells us, disappear also all the serious symptoms which resulted from it. The skin clears and gains its normal colour, the mind of the patient is relieved from the anxiety and irritability which formerly interfered with its normal action, and the temper of the patient shows definitely the good which the operation has done. There are, however, some cases which Mr. LANE considers are not adequately treated by this operation of transplantation of the ileum, and in these he considers it necessary to excise the whole of the large intestine except the sigmoid flexure and the rectum, an operation of no great difficulty in itself but one accompanied by a large amount of shock, a matter of especial anxiety in subjects so much debilitated as most of these patients are. The same beneficial results follow upon the success of the larger procedure, and in addition there is no risk of any of the intestinal contents passing backwards in the cul-de-sac formed by the large bowel.

We cannot doubt the benefits ascribed to these operations by Mr. LANE, who has shown the medical profession many of his successful cases, but we think that hardly sufficient stress has been laid on the question of the risk of the operation itself. We have not been able to find any very definite statements as to mortality of operation; but deaths have occurred, and it would be well if we could see at a glance the exact effects of the operation with regard to mortality. The whole question must depend on whether the risks of persevering with medicinal treatment would be less than those of an operation. Are the dangers and discomforts of chronic intestinal stasis sufficient to justify the recourse to operative procedures in which the risk to life is by no means slight? It must be acknowledged that in this country the number of those surgeons who accept Mr. LANE'S views on this matter is comparatively small. Abroad they have met with more recognition, but in most countries it seems to be felt that sufficient data are not available for coming to a decision. We are sure of these things—that the evils of chronic intestinal stasis have not been fully recognised, and that the condition needs more attention than it often receives. The mere administration of a purgative and a few instructions as to diet are often considered to be sufficient treatment for chronic constipation which may have lasted many years. This unenterprising policy should not continue. On the other hand, although Mr. LANE has done good service in bringing forward the methods he advocates, and has shown extraordinary perseverance in the face of much opposition in advancing our knowledge of the capability of operation on the large bowel, we doubt if he has yet proved his case as to the frequency with which such extensive operations as excision of the large intestine are required. In other words, we want to know more of the risk of the operation so as to decide how large a number of cases should fall into the class where operative procedure is justifiable.

Hospital Sunday, 1909.

THE annual collection of the Metropolitan Hospital Sunday Fund will be made on Sunday, June 13th, and on the eve of the event we again express the hope that the appeal in the places of worship of all denominations in and around London will arouse a free and generous response. We know that the liberality of many congregations is taxed on frequent occasions, perhaps weekly, on behalf of deserving causes, but we urge the claim of the hospitals of London as one of paramount importance, worthy to be met by a donation exceeding the usual weekly offering. As a number of persons leave London at the end of the week in order to spend Sunday elsewhere we trust that they will be mindful also of the needs of the Fund. Many of them may attend worship on Hospital Sunday at places where no collection is made on behalf of this great distributing agency of London's charity, but it will give them little trouble to send their gift direct to the office of the Fund at 18, Queen Victoria-street, E.C., if they have omitted to entrust it to a friend for addition to the offertory.

In enjoining upon all that they should give generously and that they should treat Hospital Sunday as a special occasion, we are not unconscious that the present year is likely to be one of exceptional need for our charitable institutions, and that the benevolent coöperation of all will be required even more than in past seasons in order to maintain the Fund at its usual high level. THE LANCET holds no brief for Government or Opposition, and expresses no views on political questions from a party point of view, but we need not therefore ignore the fact that the financial proposals of the Chancellor of the Exchequer, whether justified or not by our needs and our circumstances, must seriously affect our voluntary hospitals. Under those proposals many will find their contributions to

Imperial taxation increased materially, and we do not shut our ears to statements which have been freely made that some at least of those affected may have to recoup themselves by diminishing their contributions to charity. If they are compelled to do this, and if the hospitals suffer thereby with other charities, then it behoves all who are not driven to such an unfortunate point of penury to put forth an additional effort to make good the loss involved. We have referred only to those obliged out of necessity to curtail their generosity. Others may feel disposed to do so, but we trust that they will dismiss the thought from their minds as an unworthy one. We feel sure that upon reflection they will realise that any effort of self-denial, any decision to forego a temporary and fleeting luxury, or even some much desired pleasure, would be preferable to allowing their personal loss to be transferred to those noble institutions whose cause we are pleading. The hospitals of London, if they crave for aid in their financial necessities as a visible and substantial token of public recognition of the great work which they carry on, have no reason to complain that their usefulness is not held in high esteem. Indeed, the main reason of their perpetual appeals for help lies in the increased and increasing appreciation bestowed upon them and in their desire to prove themselves worthy of it. They have to strive to do more each year because each year more is expected of them. And the help which they receive should be proportionate to the growing arduousness of their task.

The report of the Royal Commission on the Poor-laws affords in numerous passages proof of the huge burden cast upon the rates by the sickness or premature deaths of parents in the humbler classes of society, to which subject Mr. BURNS also referred in the eulogy of modern medicine with which he declared the Tuberculosis Exhibition open last week. We would remind the public that the work done in the hospitals tends, directly and indirectly, to prevent and diminish the accumulation of that burden, and that what the public gives in charity is to no small extent repaid to them by the hospitals and by the unpaid work of their medical staffs. A committee appointed by the Home Secretary for the purpose recently issued a report upon the provision of a rapid and effective service of ambulances throughout the metropolis. In our special supplement published on behalf of the Metropolitan Hospital Sunday Fund we pointed out that the holding of this inquiry showed the importance attached to the work of the hospitals and to the promotion of such a service, but that its institution in accordance with the recommendations made would mean no small increase in the number of cases brought to hospitals of all kinds for treatment. But already aid to the sick and injured is supplied in every hospital of the metropolis to the full extent of its financial power, and we urge upon all that the supply should be made as nearly equal as may be to a demand likely to be augmented considerably. The supply will never exceed the demand, for the hospitals aim at one ideal—"Efficiency"; and efficiency for them is inseparable from constant movement forward along that path of scientific progress, the pioneers of which work in the hospital wards. Medicine desires to place, through the generosity of those who are wealthy by comparison, the benefits of therapeutic and surgical skill and of nursing, all of the highest order, at the disposal of those whose poverty would otherwise set the boon beyond their reach, leaving them to die unaided. Therefore, the demand for aid never lessens, and in urging it on behalf of the Metropolitan Hospital Sunday Fund we appeal to all, whatever their financial circumstances, to give generously, in the assurance that their gift, whether great or small, will be wisely and economically administered, and that it will do its full share in maintaining those great charities among which the Metropolitan Hospital Sunday Fund annually distributes its resources.

Annotations.

"Ne quid nimis."

THE MODERN TREATMENT OF FRACTURES.

WE publish this week an address entitled The Modern Treatment of Fractures, delivered by Dr. Lucas-Championnière, the President of the International Society of Surgery, before the Cardiff Medical Society on Friday last, June 4th. Compared with the progress which has been made in most departments of surgery, the treatment of fractures has lagged far behind. The rules laid down in the dawn of medicine held good until a very recent date, and as certain of these were based on theory rather than on practice it is not surprising that the best results should be withheld from those practitioners who will not allow the possibility of modification. It is still taught by many surgeons, and was until recently universally believed, that the essential principles of the treatment of a fracture are that the fragments of the bone should be replaced exactly in their former position, and that they should be there held fixed for a sufficient time to allow the fragments to become firmly united. These are the directions which are found repeated, the words merely being varied, in nearly every textbook of surgery or treatise on fractures up to the present time, and in most cases without addition or qualification. There are, however, considerations which give rise to some doubt as to the correctness of these generally received principles. The formation of callus is essential to the union of a bone, and it is certain that the chief factor in the determination of the amount of callus formed is the amount of movement of the fragments. Further, it cannot be accepted as essential that the fragments must be replaced in their original position with anatomical accuracy. The introduction of the Roentgen rays produced shocks in the minds of not a few surgeons, for they found that fractures which had seemed to be accurately reduced were often in a by no means perfect position when they were scrutinised by the new exponent. Various slight displacements were seen to be present, and yet the limb was as useful as its fellow. It cannot be too firmly laid down that the true test of the success of the treatment of a fracture is *functional activity*. To have the fragments of a bone in perfect position will not serve unless the utility of the part is also completely restored, and if the utility of the limb is perfect the precise positional relation of the fragments matters little or nothing, cosmetics apart. The introduction of the x rays has not been wholly beneficial to the operating surgeon, for in the first place skiagrams are very liable to [illegible] and secondly, the fact that the fragments [illegible] lead the unlearned [illegible] unsatisfactory. Dr.

consists in early massage of the limb and mobilisation, commenced within the first 24 or 48 hours. These he holds to be of capital importance, for by their aid sufficient callus is formed to unite the fragments firmly, the absorption of effused blood and serum is favoured, the mobility of the limb and of the neighbouring joints is assured, by all of which convalescence is hastened. It is often objected to this method that it is, or at least may be, very painful, but the statement is made chiefly by those who have never seen the method employed. No one who has had experience of the treatment of fractures by massage and mobilisation can doubt that this method often diminishes the amount of pain which the patient suffers, not only during the period of consolidation of the fracture but also after the fracture has united. The treatment by fixation has a great tendency to cause stiffness in the muscles of the limb and in the adjoining joints, while the breaking down of adhesions caused by prolonged rest is often one of the most trying portions of the whole treatment. This part of the pain resulting from a fracture is entirely avoided by Dr. Lucas-Championnière's tactics, for when the pieces of the broken bone have united the functional activity of the limb is unimpaired. The results of this treatment fully justify its adoption in suitable cases, but there must be care in its employment. Splints cannot be absolutely discarded, for when the tendency to displacement is very great they will be required after the limb has been massaged. In other cases splints may be used with advantage but removed each day while the massage is given. In short common sense must be employed to control the unrestrained use of massage and mobilisation, for it is not difficult to imagine cases where, from the conditions in which the patient is situated, or from other considerations, the full carrying out of massage and mobilisation is impossible. The views expressed by Dr. Lucas-Championnière have not been accepted by the majority of our surgeons, and this may have been due to the wrong application of his teaching; but there are many indications that the new methods are gradually gaining ground as we learn more of their range of utility. To those of our readers who are unacquainted with the treatment by massage and mobilisation the reading of Dr. Lucas-Championnière's address will afford much interest, and they might supplement this information by the study of the volume which he published in 1895. The careful practice of the doctrines inculcated will, we believe, be followed by an appreciation of their value.

THE "INDIVIDUAL CUP" AT THE HOLY EUCHARIST.

SOCIETY, in Mr. Gladstone's phrase, must "stand the recoil of its own principles." It must equally be prepared to modify its usages in the light of better knowledge. Of this truth the Church of Scotland has just been affording illustration at its General Assembly, before which a committee reported that on medical, among other, grounds the use of the individual cup at the Communion table ought not, in the opinion of the said committee, to be prohibited. In the course of a debate on the same subject at last year's sitting of the same Assembly it transpired that the falling-off in attendance at the Communion table was largely accounted for by the reluctance of many of the congregation to apply their lips to the cup which had already been similarly touched by fellow communicants whose personal cleanliness, nay, whose exemption from contagious disease, was more than doubtful. Gruesome details of the physical "unpreparedness" of these communicants to take part in the mystic rite were freely set forth, while more serious still was the suspicion that the common cup might be used by this or that communicant suffering from malignant disease, incipient or developed, and that positive danger to health, nay to life itself, was incurred by the use of that cup passed on to the next communicant. Impressed with these revelations the General Assembly appointed a committee to consider the whole question in all its aspects, medical and other, with the result that it has just had to take action on that committee's finding, by which, as already stated, the communicant should not be "prohibited" from using his (or her) "individual cup." An amendment, based on a "minority report," was subsequently proposed that the "innovation" in question should not be permitted and that the communicant should be allowed to take his (or her) chance of the "septic touch," or worse, as had hitherto been "the practice of the Church of Scotland." To this a counter motion was made that "the movement for change should be discouraged as strongly as possible without absolutely forbidding it." On a division being taken this motion was carried, "amid applause," by 240 votes to 145; so that in future the "individual cup" may be used by those who have fortitude enough to disregard the haply wounded *amour propre* of their fellow communicants or the possible imputation of thinking unduly of their corporeal interests at a peculiarly spiritual observance of the Church. How the innovation may work out in practice remains to be seen. Meanwhile, the question is one of a class from which no Church is altogether exempt—a movement, medically inspired, having long been agitating the Latin communion for the more frequent renewal of the holy water kept at the entrance of cathedral or basilica, the said water being so contaminated by the touch of the poorer among the faithful as to become an active medium for the propagation of disease.

THE PROPOSED NEW EALING HOSPITAL AND ITS STAFF.

THE unfortunate controversy which raged for some two years around the visiting staff of the Hampstead General Hospital, and which did much to upset the popularity of an undoubtedly useful institution, is now happily a thing of the past, and the success of a recent festival dinner on behalf of the hospital was such that we may hope it will enjoy a career of extended utility under its new *régime*. There are, however, indications that in another London suburb similar trouble is in danger of arising, and in the interests both of the sick poor and the medical practitioners in that locality it appears to us desirable to make a statement of the facts as they have come before us. Ealing has for a number of years possessed a Cottage Hospital of some 30 beds staffed by local practitioners, with the assistance of a London surgeon who has attended to perform operations requiring exceptional skill, and we believe that the professional conduct of the institution has been entirely satisfactory to its beneficiaries and subscribers. Money is now being raised to rebuild the hospital and enlarge it so as to accommodate about 50 beds. The appeal for funds for this purpose has met with fair success, and a considerable contribution has been offered by the King Edward's Hospital Fund for London, but on the embarrassing condition that the hospital shall be conducted on the lines of a metropolitan general hospital. We understand that the King's Fund has not entered into a detailed explanation of this condition, but in the light of the policy pursued by that body during the negotiations for the amalgamation of the Hampstead and North-West London Hospitals it is not hard to foresee that the Fund anticipates the replacement of the Ealing local staff by a body of metropolitan "consultants." It is also not hard to foresee that any such procedure will be resented by the majority of the Ealing practitioners on exactly the same grounds as it was resented at Hampstead, and we are not at all sure that the Ealing Hospital will weather such a storm as is likely to break around it when its subscribers realise the choice which they will have to make. It is on this account that we call attention to the matter before it is too late for friendly settlement, as we conceive it to be to the advantage of the hospital that its supporters should realise the responsibilities which unqualified acceptance of the subsidy of the King's Fund will probably entail, and we advise any medical practitioners who may be interested in the result to lay the case of local staff *versus* London staff before the people who will be called upon to make the decision. Our own feeling is that the local conditions in Ealing are such that the hospital is unlikely to thrive if the services of the local practitioners are dispensed with. The suburb is a well-defined municipal entity with a fair amount of local spirit, and if its medical men were driven into an attitude of corporate hostility or even of indifference to the success of the now expanding hospital we fear that the institution may not only cease to expand but even cease to exist. Again, it may not prove an easy matter to obtain an efficient London staff in the face of medical opposition in the district, and taking all the circumstances into consideration Ealing would do well to ask itself before it goes any further, "Shall we support our new hospital ourselves and run it in our own way with a staff resembling that of the old Cottage Hospital, or shall we accept a handsome subsidy towards the building from King Edward's Hospital Fund and be prepared not only to say good-bye to our local staff, but to lose their sympathy with the future work of the institution?" Hampstead had to answer that question, but we are not at all satisfied that Ealing can give the same answer without severely damaging its local hospital. We think that a staff of local physicians and surgeons, strengthened by one consultant physician and one consultant surgeon from outside will best meet the particular conditions of the case.

THE NATIONAL SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.

A SUMMARY of the report of the Society for the Prevention of Cruelty to Children was given in THE LANCET of May 29th, p. 1577. It is a satisfactory document recording the progress and work of the society during the 12 months immediately preceding its entry upon the twenty-fifth year of its existence, and the meeting which celebrated that anniversary afforded no less cogent proof of the high position won and maintained by the society. The meeting referred to was held at the Mansion House, with the Lord Mayor in the chair; among those who addressed it in praise of the good work done by the society were the Lord Chief Justice of England, Mr. Curtis Bennett, second to none in experience as a London magistrate; and Mr. Herbert Samuel, M.P., the energetic young Minister largely responsible for the recent Children Act, who declared his indebtedness to the unfailing assistance of the society's director in the preparation and discussion of that measure. The names of the supporters of the society are proof of the triumph achieved by persevering work, in the teeth, sometimes, of inert obstruction and active opposition. The attitude of the legal profession, for example, has not always been one of sympathy towards the society. Twenty years ago it used to be a commonplace opinion among members of the Bar who criticised its proceedings that the society must be mistrusted, and its evidence submitted to closer scrutiny than that accorded to other prosecutors, because the society always assumed the guilt of the defendant, refused to abandon that assumption, and fought tooth and nail for a conviction in order to obtain subscriptions from the benevolent by quoting records of success. It may be suggested that perhaps this was true then, and that experience has taught those responsible to adopt a more judicial position. We doubt, however, whether this is the case, and we are inclined rather to believe that the society in its early days, as now, satisfied itself that a case was one which in the interests of justice ought to be taken up, and then laid its evidence fairly before the tribunal, leaving accused persons to make good their defence exactly as they are left to do in other criminal trials. We observe, at any rate, that Mr. Curtis Bennett spoke of the society at the Mansion House as prosecuting only when it was absolutely necessary, and that Lord Alverstone, who said he had been present at the birth of the society, declared that for one case of excessive zeal or of imprudence on the part of its inspectors there were hundreds of cases never heard of by the public in which they had brought relief to suffering children. His lordship also spoke of the share taken by the society in promoting the upbringing of children to be healthy, happy, strong, and willing citizens of the empire. This is an aspect of the society's work and of its aspirations which brings it closely into sympathy with the medical profession, and it must not be forgotten that in nearly every important and contested case which the society is compelled to ventilate and to fight out before judge or magistrate it is almost certain to be the medical evidence which turns the scale. The negligent or brutal parent or guardian, through his advocate, struggles to secure acquittal. The evidence of neighbours or of servants is belittled and ingeniously ascribed to motives of personal hostility to the defendant, to lack of accurate observation, or to any other cause than the desire to tell the truth. The medical witness goes into the box and it is at once found that against him no suggestion of animus can be raised, and that his evidence is of facts seen and described by a scientific observer. He tells the jury of the condition in which he found the child when he first saw him, giving particulars of his weight, his general physical and mental condition, and the marks on his body, and he points out where the matters thus noticed corroborate the story told by other witnesses of cruelty or neglect. He then recites the facts observed on a subsequent occasion, when, perhaps, after a few days only, there has been rapid increase of weight and improvement of condition, evidently due to the substitution of ordinarily proper treatment for neglect and ill-usage. Upon such an occasion the guilt of the accused is usually established beyond the possibility of doubt. On the other hand, if the weight of medical testimony is on the side of the person charged he has the full benefit to be derived from the absence of any motive to espouse his cause, and in that case also when such evidence turns the scale there can be little question as to the justice of the decision arrived at.

SYPHILITIC SCIATICA.

No form of sciatica remains more rebellious to treatment than the syphilitic unless it is recognised and treated specifically. It is a variety of sciatica the relation of which to preceding syphilis is much more likely to impress itself on the physician if it occurs in the secondary stage than if in the tertiary. The possibility of syphilis being causally related to sciatica must always be taken into account, though the interval between the two be a long one. In the *Lyon Médical* for December, 1908, M. Favre and M. Roubier describe the case of a man aged 37 years, who contracted syphilis at the age of 24, and who for three months had suffered agonising pain in the typical sciatic distribution on the right side. Treatment by accepted methods, physical and medicinal, had proved of no avail. On the affected side the knee-jerk was exaggerated, the tendo achillis jerks were present and equal, there was no affection of the sphincters, and no loss of sensibility was discoverable. Under treatment with 60 grains of potassium iodide daily and injections of mercury biniodide a complete and apparently lasting cure was effected in 18 days. Syphilitic sciatica may appear as a secondary or as a tertiary phenomenon. In the former case it occurs from six to 12 months after the chancre, and according to Fournier is rarely complete, being usually limited to a segment of the limb; its evolution is capricious, it is liable to exacerbations and remissions, nocturnal paroxysms being specially apt to occur; it yields readily to antispecific treatment. The latter presents the classical symptoms of sciatica, with spots painful on pressure; it is peculiarly intense and persistent, and, like sciatica of the secondary stage, frequently worse at night; irregular anæsthesias may occur and sometimes muscular atrophy. Pathologically, it is due to a syphilitic sclero-gummatous neuritis, in some cases possibly to a syphilitic osteitis or periostitis. In diagnosing between a pure trunk sciatica of this nature and sciatic neuralgia from syphilitic disease of the spinal roots it is worth remembering that exaggeration of the pain by coughing or sneezing is strongly suggestive of the latter condition. In this, further, we should expect to find anæsthesias of radicular distribution, occurring commonly in the following order: fifth lumbar, first sacral, second sacral, and fourth lumbar, and finally a lymphocytosis of the cerebro-spinal fluid.

THE TEMPERATURE, RAINFALL, AND SUNSHINE OF MAY.

THE month of May is, taking the average for a long series, the most sunny month of the year over Ireland, Scotland, and the western and north-western counties of England, but over the eastern half of England, June, July, or August generally supplies the greatest number of sunny hours. The month which has just elapsed has been unique for the extraordinary allowance of sunshine, its record not only beating easily that of all the preceding Mays since the inauguration of the automatic sunshine instrument in 1881, but being higher in some parts of the kingdom than during any month of the 12 since the record began 28 years ago. This is all the more remarkable, as during the month of April there was also a great excess, that month affording more sunshine over a considerable portion of the kingdom than any of the 28 preceding Aprils. It has frequently been one of the most striking features of the sunshine during the past few years that the London record, as represented by Westminster, has been steadily diminishing the extent of the minus difference between the metropolis and the resorts on the south coast. The figures in the table show the same tendency in a rather marked degree, Westminster recording 134 hours more than the average, while the excess at most places on the south coast is less than 110 hours. The aggregate in London, 297 hours, or rather more than nine and a half hours per day, was considerably higher than those in the North of England, and also exceeded that at Margate, while it was only three hours less than the record at Yarmouth. At Greenwich the figure was 326 hours, or only ten hours less than that at Brighton. It will be seen that there was very little difference between the totals in any part of the South of England, inland places such as Bath and Tunbridge Wells getting about the same number of hours as the coast. At the very top of the scale stand Hastings and Folkestone, with the respective total of 340 and 341 hours, equal to 11 hours per day, and at the bottom are Manchester and Aberdeen with 200 hours, equal to six and a half hours per day. As would naturally follow from such uninterrupted sunshine, the number of rainy days was very small. There was, in fact, scarcely any rain during the first three weeks of the month, and it is open to question whether the undoubted benefit arising from the brilliant sunshine was not in a certain measure counterbalanced by the lack of the usual number of showers to cleanse the atmosphere. The great dryness was certainly very detrimental to some of the ordinary farm produce. In spite of some very sharp and damaging frosts during the earlier half of the month the mean warmth of the whole period was slightly in excess of the average in nearly all places represented in the table, the warmest spot of all being London, with a mean temperature of 54·3°. The mildest nights, however, were experienced at Torquay and Llandudno, where the mean minimum temperature was 1° higher than in London, and between 4° and 8° than in the North Midlands. Round about the middle of the month the range of temperature between the early morning and the afternoon was unusually large, but the mean diurnal range for the month was not at all high considering the general state of cloudlessness. In this respect such widely separated places as Scarborough, Margate, Hastings, Torquay, and Llandudno shared alike, their mean range being no more than 14°.

Stations.	Highest temperature.	Lowest temperature.	Mean maximum temperature.	Mean minimum temperature.	Mean temperature for month.	Mean diurnal range of temperature.	Number of days with rain.	Total fall in month.	Difference from average.	Number of hours of bright sunshine.	Difference from average.
	°	°	°	°	°	°	*	ins.	ins.		hrs.
London (Westminster) ...	81	35	63	45	54·3	18	9	1·42	−0·17	297	+134
Manchester ...	80	33	61	44	52·1	17	13	1·53	?	200	?
Nottingham ...	80	32	62	42	52·0	20	12	1·12	−0·20	260	+ 99
Bath	79	29	64	42	52·8	22	6	1·55	−0·48	320	+118
Harrogate ...	75	29	59	40	49·4	19	11	1·79	−0·19	236	+ 63
Buxton	77	24	59	38	48·1	21	15	2·71	+0·42	251	?
Tunbridge Wells	81	33	62	42	51·8	20	9	1·87	+0·06	33	+105
Margate	80	37	57	43	49·8	14	5	0·96	−0·64		+ 90
Hastings	72	36	59	45	52·1	14	8	1·11	−0·49	341	+106
Folkestone ...	77	32	59	44	51·6	15	6	0·75	−0·93	340	+117
Brighton	70	35	60	44	52·3	16	8	1·03	−0·66	336	+103
Bournemouth...	74	31	63	43	52·8	20	6	1·12	?	334	?
Torquay	73	36	60	46	53·0	14	7	0·90	−1·09	315	+ 91
Llandudno ...	74	32	60	46	52·7	14	10	1·02	−0·82	283	+ 77
Blackpool... ...	73	29	58	41	49·6	17	12	2·08	+0·05	287	+ 99
Aberdeen... ...	63	33	53	43	50·1	15	19	2·52	+0·41	200	+ 11
Scarborough ...	73	32	56	42	48·8	14	11	1·16	−0·80	231	+ 47
Yarmouth ...	72	33	56	44	50·1	12	8	1·27	−0·61	300	?

* A day with at least 0·01 inch.

INTRACRANIAL HÆMORRHAGE IN THE NEW-BORN.

THE occurrence of hæmorrhage from the cerebral veins which lie beneath the dura mater is one of the common causes of infantile cerebral hemiplegia and epilepsy, spastic paraplegia, diplegia, and other conditions for which when they come under observation relatively little can be done. To Cushing of Baltimore belongs the credit of working out the problem of their treatment from the point of view of early surgical intervention, and the results he has obtained demand the most favourable consideration. The superior longitudinal sinus receives from 10 to 12 veins from the superior cerebral surface on each side. The presence of these large vessels, in relation more particularly to the coronal and lambdoidal sutures, suggests the possibility of their injury in the displacement and overlapping of the cranial bones during parturition. The symptoms of the condition are those of cerebral compression, and it seems to be characteristic of many of these cases that localising signs are absent. In the *Boston Medical and Surgical Journal* of April 22nd Dr. Torbert, of the Boston Lying-in Hospital, describes two typical cases. One concerned the infant of a primipara, delivered by low forceps after an 18 hour labour, where everything seemed to have gone well till the fifth day. Then the child refused to feed and appeared stupid. His limbs became stiff, although they were still moved. The anterior fontanelle became tense and ceased to pulsate. A lumbar puncture was done and a teaspoonful of blood-stained fluid obtained. It was decided safe to delay until the result of catharsis could be seen, but the child sank and died a few hours later. The whole cerebral hemisphere on the right was then found to be covered with a fresh hæmorrhage, which extended below the tentorium. In the second case the symptoms appeared on the second day, the child being cyanosed, with twitching of the right side of the face, and the anterior fontanelle bulging. In the course of a few hours death ensued and the left hemisphere was found covered with recent blood-clot. The only hope for beneficial results lies in immediate operation. Last year Cushing reported nine cases with four recoveries; in 1905 he published four cases with two recoveries. In every case the diagnosis is made entirely on symptoms of cerebral compression, which vary somewhat as the compression is supra- or infra-tentorial.

THE FORTHCOMING HEALTH CONGRESS AT LEEDS.

PROGRESS in sanitation and hygiene depends in a great measure upon the education of the public in regard to such matters, and the attitude of municipal corporations towards health problems and their solution may react either for good or for evil upon public opinion. The Lord Mayor of Leeds, Alderman F. J. Kitson, is therefore to be congratulated upon the keen interest which he shows in the forthcoming Health Congress organised by the city and University of Leeds, with the coöperation of the Royal Sanitary Institute and the Royal Institute of Public Health. It will be held from July 17th to 24th. On May 18th a meeting was held in the town-hall of Leeds under the presidency of the Lord Mayor, when he issued an urgent appeal to all leading citizens to assist in the social side of the Congress, and pointed out that matters of health ought to receive the attention of the whole of the community. The President of the Congress is Colonel T. W. Harding, J P., D.L., a member of the Royal Commission on Sewage Disposal, and the general secretaries are Dr. J. Spottiswoode Cameron, medical officer of health of Leeds, and Mr. R. E. Fox, the town clerk of that city. According to the preliminary arrangements, the sections will include: Preventive Medicine, of which Dr. Arthur Newsholme, Principal Medical Officer to the Local Government Board, is the president, and Dr. R. V. Clark and Dr. Charles Porter are the secretaries; Industrial Hygiene, with Dr. B A Whitelegge, C.B., Chief Inspector of Factories to the Home Office, as president, and Dr. F. W Eurich, Dr. A. G. Wilson, and Miss Maynard as secretaries; Child Study, the president of which is Dr George Newman, Principal Medical Officer to the Board of Education, and the secretaries Dr. J. R. Kaye and Miss Alice Ravenhill; and Biology and Chemistry, to be presided over by Dr. A. S. F. Grunbaum, professor of pathology and bacteriology in the University of Leeds, with Dr. T. Orr as secretary. There will also be an Engineering and Architectural section. A conference of municipal representatives will be presided over by the Lord Mayor of Leeds, and a conference of veterinary surgeons and of sanitary inspectors will also be included in the programme. The address of Dr. Cameron, the secretary, is 41, Park-square, Leeds, from whom further particulars of the Congress may be obtained.

BENZOIC ACID IN CRANBERRIES.

WHEN certain substances usually referred to as chemical preservatives are found to be normal constituents of foods, a serious difficulty may arise in the event of legislation being directed to the prohibition of the preservative. Salicylic acid, it is true in small quantity, has been found in some fruits and in wine, and recently benzoic acid in very appreciable quantity has been found in cranberries. The dried berry contains as much as 0·45 per cent., and when warmed the free benzoic acid is expelled and may be caught as a crystalline sublimate. We do not remember to have heard that cranberries have been banned on account of producing injury to health; but certainly some authorities have, on the force of experiments made with benzoic acid or benzoates put in food administered to the human body, condemned the use of these substances for preservative purposes. The conclusion, however, has been attacked by other observers, who claim that in moderate quantities, though sufficient for preserving purposes, benzoic acid or the benzoates are harmless. It would be interesting to find whether cranberries in large doses are injurious outside any ordinary effects upon the stomach; though if they proved not to be so, the explanation might be that benzoic acid from natural sources produces no injurious results, while when it is prepared artificially or by synthesis, perhaps because a foreign constituent is present, its exhibition is not so innocuous.

TROPICAL ADENITIS AND PLAGUE.

IN a paper published in THE LANCET of June 5th, p. 1595, by Dr. R. Leonard Ley, attention was directed to some cases of illness characterised by chronic buboes of some size, especially in the groin, which had come under his observation, the patients having seemingly contracted their illness in India or elsewhere in the Far East. This form of adenitis, in Dr. Ley's opinion, is "due apparently to an as yet unrecognised organism," which may have been transmitted to man by animals, such as horses and mules. He also throws out the suggestion that possibly the disease may bear the same relation to bubonic plague that cow-pox does to small-pox, and that it may in the same way as cow-pox be transmitted to man. For some years it has been well known that many natives of the East suffer from non-venereal buboes. Manson and Scheube have described such cases of tropical adenitis, which are said to be generally of a chronic kind, excision of the enlarged glands hastening the cure. As yet no satisfactory explanation has been forthcoming as to the origin of these cases, though Manson thinks they may be due to some virus which has gained an entrance to the body through some small wound, abrasion, or insect bite, on the leg or foot. Some competent bacteriologists have made careful search for a specific organism in the enlarged glands, but so far without success. Cantlie and Hewitt as well as other observers have discussed the bacteriology of such cases and the possible relation of this form of adenitis, called by some "climatic bubo," to bubonic plague. Cantlie has regarded such cases as a modified manifestation of plague which he named "*Pestis minor*," regarding it as often being a precursor of a more serious plague epidemic. But most experts now hold the view that there are no adequate reasons for regarding oriental adenitis as having any connexion whatever with true plague. Glandular enlargement is a frequent accompaniment of tropical disease, and it is therefore possible that the cases which Dr. Ley and others have met with are not due to one specific organism alone, but may be instances of the secondary effects of various diseases contracted in the tropics. In our opinion no evidence has been brought forward to justify the view that these cases of chronic non-venereal bubo contracted in India and the Far East, described by Dr. Ley and others, have any relation at all with true bubonic plague. Nor have we received any evidence that horses or mules are susceptible to plague, or that the inoculation of plague bacilli into these animals produces any local disease communicable to man in the way that small-pox when inoculated into the bovine animal produces a local disease transmissible to human beings.

THE CHURCH ANTI-VIVISECTION LEAGUE AND HOSPITAL SUNDAY.

WITH the approach of Hospital Sunday our attention is, not for the first time, directed to the pamphlets sent out by a body bearing the title of the "Church Anti-vivisection League." Everyone has a right to publish his opinion, and even to try to bring over others to his way of thinking, provided that by so doing he will do no harm to others and that he does not bolster up his own opinions by means of perversions of the truth. But the provisions are of importance. We have had to comment upon the literature issued by the Church Anti-vivisection League upon a previous occasion, when it became evident that the honorary secretary had no idea of what constitutes "proof." It is now evident from a publication before us that the League has no idea of what constitutes truth. Anti-vivisectors are fond of quoting Tennyson as an opponent of vivisection. He undoubtedly was so, but he also wrote that "A lie which is half the truth is ever the blackest of lies." We err on the side of charity when we say that the pamphlet now in question is half the truth, and though we have not space to go through the misrepresentations in detail, we will note one or two. On page 1 of the pamphlet, under the heading "1908, Hospital Laboratories and the Royal Commission," there are given some figures from the Parliamentary Return of Experiments on Living Animals in 1907. Figures are quoted and then we find the following sentence, "In the remaining 1199 experiments anæsthetics are alleged to have been used in the initial operation ......" Why does the League say "alleged"? It can only be because it wishes to make the readers of the pamphlet believe that vivisectors licensed under certificate B or B + E E or F tell lies when they return their experiments as being initially performed under anæsthetics. Further down we find, speaking of experiments without anæsthetics, "It is true that the vivisectors claim that the great majority of these experiments are inoculations or hypodermic injections, but it is also noticeable that this year, as usual, the Inspector inserts the qualifying expression 'and some few other experiments,' words which may cover anything." Now the Inspector expressly states on page 5 of the return which is being reviewed, when speaking of experiments without anæsthetics, that they "are mostly inoculations, but a few are feeding experiments, or the administration of various substances by the mouth or by inhalation, or the abstraction of a minute quantity of blood for examination. In no instance has a certificate dispensing with the use of anæsthetics been allowed for an experiment involving a serious operation. Inoculations into deep parts involving a preliminary incision in order to expose the part into which the inoculation is to be made are required to be performed under anæsthetics." Why does the League omit to quote this passage, and why does it say that "vivisectors claim that the great majority of these experiments are inoculations," implying by these words that they are not so? Most of the rest of the pamphlet is taken up with Colonel Lawrie's evidence given on March 25th, 1908, about an experiment by Dr. W. H. Gaskell which he (Colonel Lawrie) had witnessed on July 7th, 1894. Those portions of Colonel Lawrie's evidence which are not convenient to the arguments of the League appear to be omitted altogether. Furthermore, the evidence of Dr. L. E. Shore and other witnesses before the Royal Commission, all rebutting Colonel Lawrie's statements, is not given, the pamphlet merely saying, "It is hardly necessary to say that Dr. Gaskell and his assistants contradict Colonel Lawrie's assertions." The whole pamphlet is a mis-statement of facts. If the League acted up to its name it would remember the apostolic dictum—"the Church of the living God, the pillar and ground of the truth."

THE ANTITOXIN TREATMENT OF MALIGNANT ANGINA AND PARALYSIS IN DIPHTHERIA.

WHILE the value of antitoxin treatment in diphtheria is well established, doubt is entertained as to whether the malignant sore-throat and the paralysis of the disease are amenable to this remedy. M. J. Comby has warmly recommended the antitoxin treatment of diphtheritic paralysis,[1] but in France other writers, and in this country Dr. J. D. Rolleston, whose experience of the disease at the Grove Fever Hospital is great, have denied its value. Dr. Rolleston suggests that the good results claimed by M. Comby were due not to the treatment,[2] but to the fact that late diphtheritic paralysis in diphtheria is, as a rule, benign, and that since the introduction of antitoxin more patients have survived to suffer late paralysis. Moreover, Dr. Rolleston pointed out that the repeated administration of antitoxin recommended by M. Comby is not innocuous, but may produce rigors, vomiting, and collapse, and profuse urticaria. Recently these results have received more attention in consequence of the researches of Richet on "anaphylaxis," a term by which he describes the increased sensitiveness which animals present under certain conditions to a second dose of toxin. At a recent meeting of the Société Médicale des Hôpitaux of Paris, M. H. Méry, M. B. Weil-Hallé, and M. Parturier reported excellent results at the Pavillon Hospital from administration of antitoxin in increasing doses (*sérothérapie intensive*) in the malignant angina and paralysis of diphtheria. In 1908 they were struck with the number of children who succumbed to paralysis or to syncope after disappearance of the membrane. From Jan. 1st to Oct. 1st 622 children were admitted, of whom nine died from paralysis and three from malignant angina. They therefore endeavoured to obtain better results by modifying the method of treatment. M. Louis Martin advised them to give repeated injections of antitoxin during convalescence in cases of severe angina without waiting for the appearance of paralysis. At the same time they increased the dose during the acute period of the angina. They gave 40, 50, and 60 cubic centimetres on consecutive days. The membrane disappeared and the throat became clean; then they gave a dose of from 10 to 20 cubic centimetres every day or every other day. If paralysis occurred in spite of this preventive treatment they continued and even increased the dose of antitoxin, so that some patients received in all more than 500 cubic centimetres. From Nov. 1st, 1908, until March 1st, 1909, during which this treatment was adopted, they did not lose a single case of malignant angina, and no patient died from paralysis or from late syncope (248 patients were admitted from Oct. 1st to March 1st). Paralysis was observed in 18 cases, but usually was mild. However, in three cases of malignant angina of the most severe type they were not able to prevent paralytic symptoms of an alarming character. In the severe cases subcutaneous injections of strychnine, sparteine, and adrenalin were also given. Under the latter the arterial tension appeared to rise. They did not think that there was any danger of anaphylaxis from repeated doses of antitoxin, for anaphylaxis usually results from administration of a small dose of antigen to an organism saturated with antibody. With large doses of antigen the danger is less. In the discussion which followed M. Netter said that he had found repeated injections of antitoxin useful in malignant diphtheria, though he had never given doses so large as those mentioned. He did not deny the danger of anaphylaxis, two cases of which he had observed, but that never prevented him from giving repeated injections of antitoxin in diphtheritic paralysis. He also praised the administration of suprarenal extract, which he gives by the mouth in severe diphtheria, having learned this treatment from Dr. Rolleston. M. Netter explained the good results on two grounds: in animals poisoned by diphtheria toxin there are manifest alterations in the suprarenal capsules; and in severe diphtheria the blood pressure is very low. In the heart failure of other infectious disease, such as scarlet fever, adrenalin has also given him "marvellous" results. He usually gives from 10 to 20 drops in the 24 hours in five or six doses.

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[1] THE LANCET, July 28th, 1906, p. 243.

[2] THE LANCET, August 4th, 1906, p. 322.

THE VALUE OF MILK-SUGAR IN THE ARTIFICIAL FEEDING OF INFANTS.

IN order to increase the calorie value of diluted cows' milk used as a substitute for breast milk in the feeding of infants it is usually recommended to add cream and sugar, and since cream is too expensive for the poor to employ, and is, moreover, less easy to obtain free from bacterial contamination, sugar in some form is more generally utilised. Owing to the fact that the natural sugar in the milk of all animals is lactose, this sugar has been regarded as the best to use if possible, although its greater cost compared with other sugars, such as glucose, cane sugar, and malt sugar, is again an obstacle to its general use. According to the observations of Rubner, 243 parts of milk-sugar have an equal heat value with 100 parts of fat, and the milk-sugar has therefore been utilised in such proportions as to make up for the deficiency of fat and sugar in diluted cows' milk. Recently some few authorities have questioned the value of milk-sugar added to milk dilutions, and Dr. Richard Weigert of Breslau gives in the *Berliner Klinische Wochenschrift* of May 24th an interesting summary of these opinions, as well as a record of his own observations made at one of the municipal dairies in that city. Prechtl in 1901 appears to have been the first to write against the use of milk-sugar, on the grounds that it promoted the growth of gas-forming bacteria, and that it rendered the milk less easily digestible by separating the alkalies and calcium from their combinations with phosphoric acid. Finkelstein has also regarded milk-sugar as injurious, especially in dyspepsia, and further states that it is much inferior to cane sugar and to malt sugar as an addition to the diet. Czerny and Keller have also expressed the view that lactose is of minimal influence upon growth. As a result of his own observations, Dr. Weigert concludes that the addition of milk-sugar in 10 per cent. solution as a diluent for cows' milk is without influence upon the weight curve of infants, that it is without beneficial effect upon digestive disturbances, and may hinder the return to normal when given to infants with frequent slimy motions. Dr. Weigert found no advantage in employing milk-sugar solution over simple dilution with water or with some simple diluent such as barley-water. He points out that the matter has an importance apart from its scientific interest in regard to pædiatrics, since the expense to the authorities in supplying pure milk-sugar to the municipal dairies is by no means inconsiderable.

THE VICEROY OF INDIA UNDERGOING PASTEUR (ANTI-RABIC) TREATMENT.

IT is reported that Lord and Lady Minto have been obliged to undergo the Pasteur treatment in consequence of a pet poodle having been bitten by a mad dog, which bit two members of the subordinate staff. The poodle having been fondled by both Lord and Lady Minto, and its saliva being infectious if rabies is present, caused the Viceregal medical adviser, Colonel W. R. Crooke-Lawless, R.A.M.C., to summon assistance from the Pasteur Institute at Kasauli. The treatment of rabies has been very effectually carried out in India during the past seven years. There are two Pasteur Institutes in India—we believe they are the only British Pasteur Institutes in existence, and each under a director appointed from the Army Medical Service and financed by the Government of India. Details of the last report of the Kasauli Institute were published in our issue of May 29th.

IRRITANT WOODS.

AN interesting case was reported in these columns a few years ago, in which an acute irritation of the skin was traced to contact with satinwood. The dermatitis broke out amongst the operatives at a saw-mills where satinwood was being cut up. The sawdust has since been carefully chemically examined with a view to discover a definite principle to which the irritating effects might be ascribed. The investigation was undertaken by Dr. Auld, of the Scientific and Technical Department of the Imperial Institute, and some preliminary results have been placed in a paper read before the Chemical Society. By suitable treatment an oil present to the extent of 1 per cent. was extracted, which, however, did not appear to possess irritant properties. A small quantity of an alkaloid, however, was obtained which, reduced from its solvent, appeared in prismatic crystals. It is apparently an alkaloid not yet included in the ordinary category and has been called chloroxylonine. It yields definite salts and behaves with certain reagents in a similar way to the great alkaloid family. Further experiments are being made and further supplies of the alkaloid are in course of preparation, but there appears to be little doubt that it is capable of producing dermatitis similar in character to that produced when the wood from which it is derived comes into contact with the skin.

THE SCOTTISH PRISON COMMISSION.

THROUGH the retirement of Colonel McHardy the chairmanship of the Scottish Prison Commission is about to become vacant, and we trust that the Government will take advantage of this occasion to remove what has long been felt as a grave anomaly in prison administration in Scotland —namely, the absence of a medical member on the Prisons Board. It is somewhat singular that the northern kingdom, which has always enjoyed an enviable fame in psychiatry, should in this respect lag behind England and Ireland, where for some considerable time past there has always been a medical Commissioner of Prisons. The question was carefully considered by Lord Elgin's Departmental Committee on Scottish Prisons in 1902 and a strong recommendation was adopted in favour of following the same policy in Scotland. The committee reported that it was "much impressed by the fact that in the great majority of instances where difficulty has arisen in the management of prisons, questions have been involved which require for their determination experience in medical requirements and practice, and yet that no member of the Board possesses any medical qualification"; and it expressed very strongly the view that the presence of a medical member would greatly improve the administration and would increase the confidence of the public. It can hardly be doubted that the Government will feel bound to give effect to this authoritative recommendation, and that the vacant position will be filled by one of the distinguished physicians who, we understand, have offered themselves as candidates for it.

OPHTHALMOLOGY AT OXFORD.

THE sixth annual post-graduate course in ophthalmology in connexion with the Faculty of Medicine of the University of Oxford will be held at the Oxford Eye Hospital from July 5th to 17th. On July 15th and 16th there will be a meeting of ophthalmic surgeons, when addresses and demonstrations will be given. The main idea of the course is to demonstrate the whole range of ophthalmology, and the day's work will be divided among lectures, demonstrations, and practical work. It is hoped that some 500 cases will be present for demonstration. Among those who are to give special addresses and demonstrations on the last two days of the course are, besides well-known British ophthalmic surgeons, Dr. Darier of Paris, Professor Deutschmann of Hamburg, Professor Dufour of Lausanne, Professor Greef of Berlin, Dr. Motais of Angers, and Dr. Remy of Dijon. Dr. F. W. Edridge-Green will give a demonstration of some new phenomena connected with colour vision, Mr. N. Bishop Harman will show his new diaphragm test for vision, Mr. A. W. Ormond will give a demonstration of the Mendelian theory in its application to ophthalmology, and Professor Arthur Thomson will give a stereoscopic demonstration of the structure of the eye. The course will be illustrated by the lantern. Fee for the course, £5 5*s.* Gentlemen attending the course will be provided with board and residence at Keble College at the rate of 7*s.* 6*d.* a day during the second week, but during the first week lodgings must be secured. Further particulars can be obtained from Mr. Robert W. Doyne, Margaret Ogilvie's Reader in Ophthalmology in the University of Oxford, 30, Cavendish-square, London, W. Details of the newly constituted diploma in ophthalmology will be found at p. 1727.

"PAINFUL HEELS."

IN a recent issue of the *New York Medical Journal* Dr. I. D. Steinhardt has published a useful paper on a subject which has not received much attention—painful heels. Many patients come under professional care complaining of severe pain and tenderness in the heels on walking, and the nature of the malady is not understood and therefore is not properly treated. A frequent cause of painful heels is acute inflammation of the os calcis with formation of new bone, which is sometimes described as exostosis of the os calcis. Usually there is a history of gonorrhœa, gonorrhœal rheumatism, gout or rheumatism, or traumatism in certain cases of weak feet. Males are more often affected than females. The gonorrhœal form usually occurs between the ages of 18 and 45 years; the gouty and rheumatic at and after the age of 40 years; the form associated with weak feet may occur at any age. In a case of the gonorrhœal form the following changes were found. On cutting into the soft parts of the heel, which in appearance and on palpation showed nothing abnormal, the tissues were found to be œdematous and the muscle discoloured. On the inferior surface of the os calcis the bone was abnormally prominent and rough in the region of the tuberosity. The bone was also very brittle and could easily be removed with a sharp spoon. Some pieces were decalcified and sections were cut. They showed granulation tissue consisting chiefly of spindle cells. From pieces of the bone a culture of the gonococcus was obtained. The adjacent tissues were infiltrated in all directions by broad bands of bone. The process was evidently an ossifying periostitis due to the gonococcus. Osteitis of the os calcis may also be due to other organisms; streptococci and staphylococci have been found. The patient usually complains at first of general pain in the foot, which soon becomes localised in the heel, while over the tuberosity the pain on pressure is exquisite, indeed it is often so great that the patient cannot put his feet to the ground. Radiography shows one or more spicules protruding from the os calcis, and periostitis of the surrounding bone or a much enlarged tubercle with surrounding periostitis. In the gonorrhœal variety treatment of the primary disease will help to cure the osteitis. In the gouty and rheumatic forms these diatheses must be treated. In the traumatic form associated with weak feet strapping may be applied and followed by the wearing of well-fitting plates, but operative treatment may be necessary. For this an incision is made in the middle line of the foot two inches or two and a half inches long, terminating about half an inch behind the tubercle of the os calcis. Retractors are inserted and the exostosis at the bottom of the wound is chiselled away and the bone is scraped with a sharp spoon until the surface becomes smooth and seems healthy. The wound is washed out with normal saline solution and closed without drainage with interrupted catgut sutures After two weeks the feet may be put to the ground, and after three weeks the patient should be able to walk.

THE King has granted to the undermentioned His Majesty's Royal licence to accept and wear the decorations which have been conferred upon them by His Highness the Khedive of Egypt, in recognition of valuable services rendered by them:—To Mr. Henry Pottinger Keatinge, M.B. Durh., F.R.C.S. Eng., director of the School of Medicine and of the Hospital of Kasr-el-Aini, the Imperial Ottoman Order of the Medjidieh, Second Class; and to Mr. Frank Cole Madden, M.D. Melb., F.R.C.S. Eng., professor at the same School of Medicine, the Imperial Ottoman Order of the Medjidieh, Third Class.

A TELEGRAM from the Governor of Hong-Kong to the Secretary of State for the Colonies stated that 11 cases of plague and 12 deaths were reported during the week ending with the month of May. A telegram from the Governor of Mauritius, received at the Colonial Office on June 4th, states that there were two cases of plague reported during the week ended June 3rd and two deaths from the disease.

MEDICAL GOLFING SOCIETY.—The annual tournament of the Medical Golfing Society will be held at the Burnham Beeches Golf Club on Thursday, June 24th. Play will be 18-holes, match play, *v.* bogey under handicap. There will be three prizes in each of two divisions —the senior competition being for those with a handicap of 12 and under, the junior for those whose handicap is over 12. The "Henry Morris" challenge cup and the Medical Golfing Society's gold medal will be competed for. There will also be a foursome sweepstake in the afternoon. Any person on the Medical or Dental Registers can join on payment of the annual subscription (4*s.*), which includes entrance to the tournament. Entries, accompanied by subscription and giving lowest handicap, should be sent to L. Eliot Creasy, 36, Weymouth-street, London, W., on or before Monday, June 21st. Conveyances will meet trains at Burnham Beeches station (G.W.R.). Cards may be handed in till 8.30 P.M.

INSTRUCTION FOR SCHOOL CHILDREN IN THE PRINCIPLES OF TEMPERANCE.

IT has long been realised by all who give thought to such matters that instruction on the subject of temperance might well be given by the teachers in our national elementary schools as a *part of the teaching of the elementary rules* of personal health. Hygiene is included as one of the regular subjects in which the students at the training colleges, who intend to become teachers, are now instructed in order to equip them for their future educational duties, and under this heading there would be given very properly information as to the value of food-stuffs, the effects of alcoholic beverages, and the consequences of intemperance to the individual, to the family group, and to the commonwealth. But while there need be no difficulty about instructing the embryo teacher, there has been considerable difficulty in deciding exactly what lines should be pursued by the full-blown teacher when he is asked to imp

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of the lessons on temperance which is recommended by the department to be followed by the teachers of the scholars attending our elementary public schools, and the necessity for this syllabus is well explained in a brief prefatory note by Sir Robert Morant. At the present time some of our elementary schools have not on their staff teachers possessing the knowledge necessary to give instruction on temperance, and in order that the scholars might receive such instruction the services have been utilised of missionaries from various societies and organisations, and the classes have been allowed to count *towards* the *period* of secular instruction required by the Code. But these peripatetic teachers, though specially qualified to discuss their subject, have not always, says Sir Robert Morant, the particular qualifications required by the Code or any experience of methods of teaching suitable to their audience, while the courses of instruction have not seldom been found inappropriate to the purpose. In these circumstances, the Board of Education has come to the conclusion that an official syllabus should *be issued as a model to which all future teaching should* conform in general character, and to some extent in detail We print the syllabus *in extenso* :—

Section I.

EATING AND DRINKING: FOOD AND ITS USE.

1.

2.

3.

and wearing

so well

4 r the body.

5 Why people

6. Things which people eat and drink for pleasure. Sweets, cakes, tea, coffee, and cocoa Some of these things are foods or quench thirst. The value of each Why people drink tea and coffee.

7. Other beverages

Besides these beverages, which are in part useful, people also take for pleasure other beverages, such as beer, wine, spirits These are not useful in the ways in which our ordinary food, People often do , wine, and spirits. ges contain alcohol

oholic beverages in

Section II.

ALCOHOL.—EFFECTS OF ALCOHOLIC BEVERAGES ON THE BODY.

1. The presence of alcohol in beer, wine, and spirits.

Not only are beer, wine, and spirits not useful to us in the same way that our ordinary food is useful, they also contain varying proportions of alcohol, which in pure form is injurious to the

beverages.

4. The drinking of alcoholic beverages may bring about injurious effects and changes in our bodies, which may be considered under the following headings:—

The effect of alcohol on.—

(a) Growth.

(b) The power of the body to resist disease.

5.

(a) The man or woman who habitually drinks too much alcohol may become a mental or physical wreck.

(b) Persons who drink in excess do not, as a rule, have long or healthy lives. The evidence of this.

Section III.

EVIL CONSEQUENCES OF INTEMPERANCE TO THE INDIVIDUAL, TO THE HOME, AND TO THE STATE.

(For children over 12 only.)

1.

2.

3.

4.

nation itself is undermined.

The syllabus is followed by a series of notes for the use of the teachers, devised to supply them with the information necessary for the elucidation of the catechism to which they are expected to submit their pupils. Under *Section I.* it will be seen that it is intended that the teacher should put questions ascertaining what are the foods in common use in the children's homes, and should explain to them the rough physiology of nutrition. Children will be taught the use of their food and the reason for the employment of the different kinds of food, and will hear also the arguments against the use of alcohol as a food. Under *Section II.* more stress will be laid upon the possibility of alcoholic beverages bringing about injurious changes in metabolism and affecting detrimentally the strength of the body and the power of work, while stress can also be laid under this section upon the effects of excessive drinking of alcohol by reference to the estimated mortality due to diseases owing to this origin In support of this part *of the syllabus* the teachers are furnished with tables compiled from the Registrar-General's Decennial Reports showing (1) the average mortality among occupied males (25 to 65 years of age) from alcoholism in various trades over a period of three years (1890–92); and (2) a comparison between deaths from all causes and from alcoholic diseases. A third table is also given showing the expectancy of life (that is, the average future duration of life dated from the age in question): (*a*) in the general population of England and Wales *based on the experience of 1891–1900*; (*b*) in persons insured in a large number of the principal life offices based on the experience of 1863–93; and (*c*) in various friendly societies and the United Kingdom Temperance and General Provident Institution. The first two tables show the risks run from alcoholism by inn-servants and inn-keepers, and the third shows how much more favourable is the expectancy of life in persons abstaining from alcoholic beverages. The tables, of course, are not intended to be presented to the children. *In Section III.* there are laid down the lines for certain instruction which is not intended to be given to childr

12, and its moral is

not only may have ba

individual but also

drinker, unhappiness

large.

The notes to the syllabus, which we have thus briefly epitomised, make up an extremely *interesting and* valuable document. The statements and the inferences can be supported by high authority, the greatest possible care

ously been given to the exact form in which the
are put, so that while the great physical and
ons are clearly brought out, there should be no
r an accusation either of exaggeration or of

It goes without saying that a debate could be
er some of the statements made in presenting the
aspect of the drink problem, but the general pro-
that the prosperity of any nation depends upon its
and that if a large number of these workers damage
pacity by excess in alcoholic drinks that nation sooner
will degenerate and fall behind others (being unable
ully to compete with more sober and temperate races)
in a convincing form. It has been alleged that some of
nperance teaching given in the past which was repre-
as scientific has, in fact, fallen short of a scientific
ard as regards accuracy in stating facts and caution
awing inferences. "In some cases," says Sir Robert
nt, "it appears that attempts have been made to
ort the incontrovertible general arguments against the
se of stimulants by suggesting that alcohol inevitably and
ariably has deleterious consequences when taken as a
erage in any condition whatever. The proposed proof of
s proposition sometimes included in lectures on temper-
ce given in public elementary schools occupied time that
ight have been better employed for the purpose of
nculcating temperance on broad intelligible grounds and as
scientific argument rested on somewhat precarious founda-
ions." Not a few medical men will endorse and welcome
this reasonable pronouncement.

We consider that the Board of Education in drawing up this syllabus, and in thus supplying teachers with the necessary information for the exposition of most important matters, has taken the right course to provide security that the teaching should be both accurate in its statements of facts and suitable in its manner of presentation to the audience. It must, of course, often happen that children who are practically underfed will receive instruction upon the choice of diet, which will create a rather grim situation; and other children will have the faults of their parents made apparent to them in a manner which may make it difficult for them to obey the decalogue. These are, however, matters which must not be weighed against the general good that will accrue to the community if the school children of the nation are taught lessons of self-control and the appalling misery and wastefulness due to the alcoholic habit. We are glad to see the words of warning with which Sir Robert Morant closes his prefatory remarks. "The teacher," he says, "should carefully avoid anything, whether in the details or in the methods of dealing with them, calculated to excite morbid curiosity or fear. Instruction in the subject of 'Temperance' should itself be temperate, and should make a sober appeal to such reasoning capacity as a child possesses and to the ideas of decent self-respecting and dutiful living which every good teacher endeavours to present to and cultivate in the children under his charge."

THE
SEVENTH INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY.

WITH the closing of the proceedings on Wednesday last week the impression was left that the International Congress of Applied Chemistry in London had been a conspicuous success. The meeting at all events has served to remind the community of the great importance of chemical science in its application to the arts and industries and to the welfare of the human race. Considerable credit is due to the organisation committee for the smooth way in which the work of the various sections proceeded. It must have cost considerable effort to bring to a satisfactory issue the business of a congress having such a comprehensive subject before it for discussion as applied chemistry. The fact that there are few departments in human affairs which are not affected at some time or other by the application of chemical science rendered the programme of subjects for discussion a necessarily full one. In spite, however, of the situation created by this plethora, the attempts put forward to preserve some system and order succeeded well, and altogether the outcome of the Congress will be an advance in the cause of science and scientific

Pressure on our space last week made it impossible
anything more than a rapid sketch of the proceedings,
although in that sketch prominence was given to subjects
which come more or less within the precincts of medical
science. This week we conclude our account with reference
more particularly to the proceedings in the Sections of
Pharmaceutical Chemistry, of Bromatology, and of Hygie
respectively.

PHARMACOLOGY.

Amongst the papers which attracted considerable interest in the Pharmaceutical Chemistry Section was one by Mr. E. M. HOUGHTON, M.D., Ph.C., on a Proposed International Standard for the Physiological Assay of the Heart Tonics of the Digitalis Series. As the result of much painstaking experimental work of a physiological kind, the author is led to the following conclusions: (1) It is impossible to determine the value of the heart tonics of the digitalis series by chemical assays; (2) the toxicity of these products warrants that every effort should be made to present preparations of them as uniform in value as possible; (3) experiments upon animals have demonstrated conclusively that the variation in the physiological action of some of these products is extremely great; and (4) that the section should appoint an international committee to determine and recommend the best method of physiological assay of the heart tonics of the digitalis series and to erect an international standard, a "heart tonic unit" to express the physiological value of the pharmaceutical products of this series. In his paper the author described his method of physiological assay, the result of
nearly 15 years of labo[illegible] possible solution of
the problems.

"Standardisation" w[illegible]
Mr. P. W. SQUIRE and Mr. C. M. C[illegible]
important question of [illegible]
medicines. In their [illegible]
examples calling fo[illegible]
motion was carried [illegible]
an international inquiry sho[illegible]
securing: (1) greater uniformity in the co[illegible]
potent drugs and the means for determining the [illegible]
(2) approximation in the pharmacopœias of the world to
common standards of activity. This paper received strong
support from a paper by Mr. PETER MACEWAN, Ph.C.,
F.C.S., and Mr. GEORGE P. FORRESTER, which, referring to
the variations in the activity of certain toxic drugs, de-
manded an international inquiry.

In the same section Mr. W. HARRISON MARTINDALE read
a very complete paper on the various organic arsenic com-
pounds. He urged further work from the therapeutic point
of view. Broadly, it is shown that inorganic arsenic taken
internally is slowly eliminated—it remains stored up in the
system for a long time—but the same does not appear to be
true with regard to the organic compounds which have been
used medicinally. The ideal organic arsenic body should
pass away quickly from the region of the stomach, but, on the
other hand, for the treatment of diseases of the nature o
trypanosomiasis and syphilis, a slowly dissolving body wou
seem to be of importance so as to prolong the action on t
organisms. The relation of the constitution of these orga
compounds to their therapeutic action was discussed.

An interesting paper on the Toxicity of Acetanilide Mixt
was read by Mr. SEIDEL on behalf of Mr. WORTH H
It was shown that in the experiments upon both warm
cold-blooded animals caffeine was found to exert a
marked antagonistic effect so far as the heart-rate
cerned, but it had only very slight action upon the le
contractile power of the heart muscle. The antago
so very imperfect that it is probably of very little
relieving the heart distress of acetanilide poisoning
the popular belief in its efficacy. When given to t
animal (mice and guinea-pigs) it markedly incr
toxicity of acetanilide. On the other hand, sodium bi
was found to exert a greater influence than caffeine
acting the depressing effects of acetanilide.

These, with the interesting address given by th
of the section, Mr. N. H. MARTIN, on the History
Chemistry in its Relation to Pharmacy, formed th
tributions to this section.

BROMATOLOGY.

Standardisation was again the favourite topic
in this section, and it was interesting to hear
the efficacy of the food laws of various count

by their representatives. Dr. W. H. Wiley, *for example,* read a paper on Food Control in the United States. He described the system of adminstration in that country. After giving a detailed sketch of the national laws relating to foods he passed on to the State laws and said that practically all the States had laws of some kind bearing upon the control of foods. There were also many municipal laws applying to the inspection of restaurants, bakeries, dairies, &c., and to the sale of milk. He regarded the system of food control in the States as effective, and emphasised the value of a legislative authority deciding upon standards of purity.

Mr. F. W. Beck, solicitor to the Grocers' Federation, discussed the same subject from the point of view of this country, and pointed out that the objects which repressive legislation with reference to foods should have in view are the ensuring of wholesomeness and the prevention of fraud; [illegible] presence [illegible], against [illegible] fixing of standards, he thought, should not be used for mere equalisation of chemical constituents in foods, and still less should it be used for the purpose of establishing or maintaining one branch of industry at the expense of, or to the detriment of, another. From the public point of view he doubted whether the advantage gained in one direction by the fixing of standards for natural products is not more than counterbalanced in another by the lowering of the general average quality. He instanced, amongst other things, the depreciatory effect of standards upon the quality of milk and butter. Referring to the question of preservatives he drew a distinction between their use and abuse, and concluded by proposing what the constitution should be of a Board of Reference which from time to time might effectively deal with these matters.

On the other hand, Mr. O. G. Moor and Mr. W. Partridge urged that from the administrative point of view the setting up of standards would secure uniformity. They suggested that in the case of milk the public analyst in every district should publish the percentage of fats contained in the milk *supplied by the different dealers, whose names should be* attached to the report.

Mr. N. P. Booth said that the absence of a legal standard for chocolate meant that while the sale of certain chocolate preparations was prohibited in some other countries these wares were permitted to come without restriction to the English market. The actual amount of cocoa in chocolate varies enormously, and sometimes it was hardly present at all, and still the stuff was sold as chocolate.

The section seemed to be of the opinion that in the work of fixing standards the collaboration of manufacturers should be invited.

SYNTHETIC CHEMISTRY.

There were a number of papers on synthetic chemistry, although few of them related to synthetic remedies. In generalising upon the subject Professor Paterno of Rome pointed out how tortuous and indirect after all was the way by which the chemist synthesised a substance as compared with the great simplicity of Nature's methods. He thought, however, that organic synthesis would be made more direct as our knowledge advanced in regard to the changes effected by the action of light, of micro-organisms, of enzymes, and of catalytic substances.

Professor Haller of Paris referred to the influence upon certain branches of commerce which the discovery of the synthesis of camphor may have. He said that in regard to alizarin and indigo, *science and industry had incontestably* got the better of nature. The cultivation of madder had completely disappeared in the south of France and artificial indigo was a menace to the immense and numerous plantations of India, Java, and Guatemala. It would be rash, he added, to say that the same thing was going to happen in the case of camphor, for it was to be remembered that the fundamental substance used in producing artificial camphor—namely, the essence of turpentine—was limited in supply, and prices fluctuated considerably.

HYGIENE.

In the Hygienic Section Dr. J. Grosmann of Manchester drew attention to the present mode of sewage sludge disposal, which, he said, was not *only* objectionable from a hygienic point of view, but was absolutely against all economic principles. At Bradford a process had been inaugurated by which an appreciable amount of fat was obtained from the sludge, which found a market at about £7 *per ton.* The residual substance after the separation of this grease by distillation was a fine brownish-coloured powder without odour and sterilised. It showed on analysis a good manurial value, and was suitable *for mixing with other fertilisers* for agricultural purposes. He quoted the instance of a town of 100,000 inhabitants in regard to the economy of the process. In such a case the cost of working up the sludge would amount to £2610 per annum, whilst he calculated that the amount realised by the sale of the products would be over £5000, leaving a margin of close on £2500.

In the same section an interesting paper on the Chemical Evidence of Slight Sewage Pollution of Sea-water was contributed by Mr. H. A. Kenwood and Dr. F. N. Kay Menzies. The evidence suggested is of importance in view of the question as to whether sea bathing in water contaminated with human excreta involved risk to the health. There is also the *case of the pollution of shell-fish.* They found that the figures giving the free and saline ammonia furnish the only trustworthy chemical guide to the lesser degrees of animal contamination of sea-water; also that delicate corroborative evidence may sometimes be obtained from the presence of nitrites and phosphates; but the complete absence of oxidised nitrogen is compatible with recent pollution, and it is not always possible to obtain a definite reaction for phosphates when the contamination is marked. The free and saline ammonia figure remains of all the available tests hitherto suggested the most trustworthy and the most delicate, and they suggest that an ammonia figure much exceeding 0·002 per 100,000 is certain evidence of the sewage contamination *of sea water.*

In a paper by Mr. J. E. Purvis, Mr. G. H. Macalister, and Mr. E. Minnett experiments were quoted to prove that it was quite unsound to pour sewage directly into the sea or even into a tidal estuary. There was little doubt that the salt of the sea stopped the purifying action of the microbic scavengers and hence putrefaction was prolonged and the discharge remained for some time offensive. Ultimately offensive matter was probably destroyed by the oxygen dissolved in the sea water. It was urged that some preliminary treatment should be adopted before sewage was discharged into the sea in order to expedite the destruction of the complex compounds.

The sewage of the *motor-car, as the fumes may be called,* was a matter also dealt with in the Hygienic Section. M. Frenkel proposes to introduce a deodoriser consisting of a tube lined inside with platinised asbestos or porcelain. A mixture of air and motor fumes passed through such a tube was automatically burnt, the catalytic cell in the tube becoming incandescent in the process. The writer said that the acrid smell from motor-car engines was due to acrolein formed by the action of carbon monoxide on the unsaturated hydrocarbons.

The subject of poisonous industries was discussed in the same section. In his address to the section Sir Thomas Oliver said that occupation should be a means of life and not a cause of death. He was optimistic enough to believe that what chemistry had done for lucifer matches it could accomplish for pottery and paint, so that certain industries which had hitherto dragged in their trail a considerable amount of suffering and distress should become a means of healthy living.

Professor P. Bedson of Newcastle also contributed a paper on a subject connected with dangerous occupations—namely, the Inflammability of Coal-dust. He described a method and apparatus for the practical study of the question. It was found that coal-dusts differed very materially in their inflammability. The dust from brown coal was found to be the most readily inflamed, while bituminous coal-dust containing a high percentage of volatile matter came next in order of inflammability. Finely divided charcoal does not inflame under the conditions of the test. Damping the dust was found to raise the ignition point considerably and an admixture of silica with the coal-dust had a similar effect.

In the above and in the previous notes in our last week's issue of the proceedings at this most interesting and valuable Congress we have dealt mainly with medical matters. We have necessarily left out all reference to the highly technical papers which were discussed on such subjects, for example, as explosives, metallurgy and mining, the starch and sugar industries, the colour industry, and so forth, the importance of which, however, will be recognised.

l individuality, and a pioneer in France in the spread eaching of Pasteur and Lister.

Lucas-Championnière, who was received with great asm, briefly returned thanks to the assembled company or their reception of him and his family, and to the Mayor and Lady Mayoress whose guests he, Madame -Championnière, and their two daughters were. He rously pleaded old age as an excuse for not making a ch.

r. William Sheen, honorary secretary of the Lynn mas and Skyrme Fund, then made a brief statement as he constitution and results of the Fund. He stated how action in which Mr. Lynn Thomas and Mr. Skyrme were olved arose as far back as 1904. The first trial was in ecember, 1905, and the second in November, 1906. The aintiff, who claimed £2000 damages, was awarded £100, ut as the verdict carried with it costs the expense to the efendants amounted to such a total that after taxation, and after a contribution from the Medical Defence Union of over £900, there still remained to be paid £3200. Following a medical dinner which was held at Cardiff within a few days of the second trial, when about 130 medical men emphatically expressed their sympathy with the defendants, an appeal was made, and within a period of four months there was collected for a re-imbursement fund £1781. The result was that Mr. Lynn Thomas and Mr. Skyrme would receive about £800 each towards the expenses which they had incurred. The money had been subscribed by some 2000 medical men all over the country, no less than 200 being subscriptions of 2*s*. 6*d*.

Mr. Edmund Owen, in introducing Mr. Lynn Thomas and Mr. Skyrme to the presenter of the testimonial, congratulated all those responsible for the gathering upon its great success. In a manner which obviously went home to his hearers he dwelt upon the splendid way in which Mr. Lynn Thomas had stood by Mr. Skyrme. This fact had been recognised by the medical profession, and he felt that both Mr. Lynn Thomas and Mr. Skyrme had come well through a painful ordeal, and that the verdict of the courts was not that of their fellow practitioners.

Sir Alfred Thomas and Mr. Mansell Moullin having also spoken in testimony of the personal worth of those who were about to receive the testimonial, Mr. Lynn Thomas and Mr. Skyrme, amidst much applause, walked up the hall arm-in-arm to where Dr. Lucas-Championnière sat on the right of the chairman, and received from him the cheques resulting from the fund.

Mr. Lynn Thomas spoke first in acknowledgment of the presentation. He declared that the event would for ever be memorable to him as proving to him that he had retained the confidence of his fellows and bringing with it the assurance that an invisible hand would support members of the medical profession under wrongful accusations. He returned the warmest thanks to Dr. Lucas-Championnière for his presence there that evening, to Mr. William Sheen for his devoted labour in organising the fund, and to all those who had subscribed to it. Mr. Skyrme spoke in a similar vein, pointing out also that the issue of this case, in support of which the Medical Defence Union had paid no less a sum than £928, had been that both that society and the London and Counties Medical Protection Society had now made arrangements with insurance companies whereby, in consideration of a small annual subscription, the payment of the damages and costs in such actions as those in which he and Mr. Lynn Thomas had been involved would be paid up to a certain amount by the insurance companies.

Dr. D. R. Paterson then proposed "The Health of the Visitors," to which the Lord Mayor of Cardiff, Dr. Dawson Williams, and Dr. Squire Sprigge responded.

The Lord Mayor having warmly expressed his pleasure both at welcoming Dr. Lucas-Championnière to Cardiff and at being present on an occasion so gratifying to Mr. Lynn Thomas, Mr. Skyrme, and the medical profession generally, Dr. Squire Sprigge said that as the significance of the meeting had already been so eloquently indicated by previous speakers he would confine his words to one particular point —viz., the manner in which the appeal to the profession was made. That manner was wholly admirable. The statement of the case in the medical press was studiously fair, and every point made was, or could be, vouched for by high rgical opinion. The original letter of appeal was based nds without a touch of bitterness or personal recrimination in it, was signed by names eminent in the medical world as professors, consultants, and leaders generally, and received a remarkable scientific endorsement from the continent and the United States. The success of the movement was assured by the manner in which it was inaugurated no less than by the righteousness of the cause advocated.

Dr. Dawson Williams said that the movement which reached its final stage on that occasion owed nothing of its success to personal considerations. It was a movement to vindicate the right to freedom of thought. The claim to that right was no new thing, for it had led to the foundation of the mediæval universities, but it was appropriate enough that this most recent defence of the principle should have originated in Wales, for the people of the Principality had in comparatively recent times been impelled, by a punctilious adherence to that principle, willingly to make many sacrifices. In the exercise of the medical art freedom of thought implied freedom to act for the best, according to the best knowledge of the day. In conclusion, he said that he was commissioned to state that Dr. E. Rayner, treasurer of the British Medical Association, had intended to be present, but was detained in London by pressure of business. Dr. H. Davy, too, who when President of the Association, had taken a warm interest in the initiation of the movement, was also unfortunately detained at the last moment.

After the health of the chairman and secretaries of the dinner, which was in every way a most successful function, had been duly drunk the meeting dispersed.

THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS: EXHIBITION AT WHITECHAPEL.

An exhibition organised by this association was opened, as we have already announced, by Mr. John Burns, the President of the Local Government Board, on June 2nd at the Art Gallery, High-street, Whitechapel. The object of the exhibition, which is chiefly of a popular and educational character, is to bring home to the people the nature of tuberculosis, the extent of its ravages, and the possibility of its prevention and cure. To this end, popular lectures homely talks, and lantern demonstrations are given fro time to time during the period which the exhibition remai open—namely, till June 19th—and no charge is made admission. The success which follows such exhibitions been proved in America, and also in Ireland by the campa organised by Lady Aberdeen, and the country owes a of gratitude to the National Association for its pr exhibition and for its determination to carry on the throughout the Kingdom.

On entering the vestibule of the exhibition atten immediately arrested by the large posters of the asso with the heading "Symptoms of Early Consum These posters state that consumption is curable majority of cases if taken in hand early, and after deta symptoms which may point to consumption exhort to take prompt medical advice. It is to be hoped crowds, among whom are many working men an who attentively peruse these excellent posters, by the advice given. Almost directly inside the d exhibition, the walls of which are covered with m ing the statistics of tuberculosis and photographs o and overcrowded areas, are two models of a tenement as it exists in London. The first displ ture—if the tatterdemalion bed, the washstan basin, and the crazy chest of drawers can be so without an attempt to conceal its failings defaults. The actual dwelling which the fu represents was occupied by four people—fa and two children—and darkness and dampnes features. The next model shows the sa intelligence and a feeling for cleanliness have now transformed it into an inhab attractive dwelling. Gone are the paper-pa and where there was darkness, inevitab by stench and disease, there is now furniture wears a new aspect, and we feel that there is also an atmosphere of health in the general cleanliness and tidiness. Near to this exhibit are rough drawings showing the right and the wrong way to sweep a floor. One picture shows a woman sweeping a floor on which sits a baby, while the dust which the sweeper is raising with her broom almost chokes the child. The other shows the broom enveloped in a damp cloth and the child is playing happily without being subjected to the risk of disease from infected dust. Of course, it would be better if the child were taken [illegible] e in [illegible] and [illegible] the [illegible] How [illegible] ows [illegible] fecting another person at a distance of 25 feet, and the other the same patient coughing with his hand before his mouth, afterwards spitting into a piece of paper which he crumples up and throws into the fire. Not far off is a model cradle made out of a banana box with hammock mattress of unbleached calico, cretonne drapery, and muslin covering. This easily and cheaply made contrivance is a direct answer to the statement that the poor cannot afford cradles; the idea is to this extent far superior to the employment of a drawer—the usual substitute for a cradle—in that all the drawers which poor women have are generally badly wanted. This contrivance, which is similar to one shown in connexion with the Second International Congress of School Hygiene,[1] was sent by the Marylebone Health Society, which also exhibits a cheap apparatus for sterilising milk. All of these tangible and visible things have a more potent effect upon the minds of the really poor or ignorant than the scientific part of the exhibition, and nothing but good can come of this somewhat sensational way of proving to the populace that many features of daily life are dangerous. The exhibition of various kinds of food with notes on their dietetic value should also serve a useful purpose in the education of those whose daily fare is too often prompted merely by custom and who have never given thought to the economy of their food.

A special section is devoted to tuberculosis in children, and one of the most interesting exhibits in this department is a large model of an open-air school designed by Dr. Frederick Rose, assistant educational adviser to the London County Council. An eight-page pamphlet giving an account of the nature and scope of open-air schools, and details and estimates of the model can be obtained at the pamphlet stall in the exhibition. This model was originally shown at the Country in Town Exhibition held at Whitechapel in 1908.[2] The institution known as Lord Mayor Treloar's Cripple Home and College at Alton is represented by photographs showing how tuberculosis in children is treated, and the methods adopted in other institutions, including the Alexandra Hospital and the Salop Convalescent Home, are also shown in a similar manner and by models. One end of the main room of the exhibition building is fitted up as a ward of the Royal Victoria Hospital for Consumption at Craigleith, Edinburgh, and there is also a model showing the arrangements of the buildings and grounds of this institution. The hospital is connected with the Royal Victoria Dispensary for Consumption, which was started in 1887 with the object of combating tuberculosis and of affording a central institution towards which persons suffering from the disease might be directed. Sanatoriums of various kinds are well represented, and the models include the Seaforth Sanatorium, the Maitland Cottage Sanatorium at Peppard Common, the Frimley Sanatorium, and the Kelling Sanatorium, the last model being constructed by a patient. Mention here should also be made of the models illustrating progressive overcrowding as a cause predisposing to consumption and its spread, which have been constructed by Mr. R. Sykes, R.I.B.A., and lent by Dr. John F. J. Sykes. The Huddersfield exhibit of models of back-to-back houses, old and new type, is also instructive.

An important development of the treatment of tuberculosis in sanatoriums is the graduated system of work for the patients, and many of the sanatoriums represented show photographs of the system adopted. Actual specimens of manufacture by the patients are also displayed. By the Victoria Home for Invalid Children, Margate, some specimens of wool garments are shown, while the St. Vincent's Cripples' Home show photographs of the inmates at work knitting, tailoring, and brush making. Specimens of brush work are exhibi[illegible] Home. From the Royal [illegible] at Craigleith come pictures the patients engaged in work of many kinds, domestic, industrial, and agricultural. The photographs and actual specimens of work done by the patients in the Blencathra Sanatorium, Threlkeld, form a most interesting and instructive exhibit, as do also the series of photographs shown by the Frimley Sanatorium. This latter institution includes in its exhibit spades and other implements graduated in weight and size in accordance with the strength of the patients using them. The work done at King Edward VII. Sanatorium at Midhurst is also shown photographically, and the National Association for the Establishment and Maintenance of Sanatoria for Workers Suffering from Tuberculosis at Benenden, the Inverness-shire Sanatorium, and the Daneswood Sanatorium for the Jewish Poor illustrate the work of the patients in similar ways. This feature of the exhibition is one which requires the earnest and attentive study of all who are in any way concerned in the management of sanatoriums. The exhibits are necessarily somewhat scattered about in different parts of the exhibition, but a special study of the subject can be easily made with the aid of the catalogue

A small room is set apart as a pathological section. Here are specimens of the liver, lung, and udder of the cow affected with tuberculous disease, lent by Dr. E. W. Hope from the public health department of Liverpool. Similar specimens, together with illustrations of infected and dirty milk, are lent by Professor S. Delépine from the Manchester University, while Professor G. Sims Woodhead shows a large number of bottle specimens from the Humphry Museum of the University of Cambridge. These are mostly from the human subject. The Royal College of Surgeons of England also lends some pathological specimens both of the human subject and of birds. X ray photographs are also lent by the Humphry Museum and by the Royal Chest Hospital, while others are provided by the Local Government Board and Dr. E. J. Steegmann, and lantern slides are sent by Dr. Arthur Ransome.

It is intended to open similar exhibitions in all the poorer districts of London in turn, and later an extended tour of the provincial cities and towns will be made. It is also hoped that the work may be supplemented by smaller portable exhibitions in travelling vans, so that the propaganda may reach the country districts. The movement is entirely free from commercial enterprise and no charge will anywhere be made for admission.

Looking Back.

FROM

THE LANCET, SATURDAY, June 11th, 1831.

MEDICINAL PROPERTIES OF THE SULPHURET OF CARBON.

The sulphuret of carbon, though discovered by Lampadius in 1796, has not yet been introduced into the medical dispensatories. MM. Wutzer and Pellengham have lately investigated its properties with the following results:—

1. The sulphuret of carbon is one of the most powerful of the diffusible stimulants yet discovered.
2. It excites powerfully the activity of the heart and arterial system.
3. Its internal use quickly determines acceleration of the pulse, increased heat, and sanguineous congestion towards the skin, and genito urinary apparatus.
4. The most remarkable secondary symptoms are, abundant diaphoresis, increase of the urinary secretion and of the menstrual discharge.
5. It has been used with the utmost success as a remedy in chronic rheumatism, and in gout where no fever simultaneously exists.
6. The dose in which it is fit to give it internally, is from three to eight drops, in any convenient liquid vehicle, or on

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[1] THE LANCET, vol. ii., 1907, p. 548, &c.
[2] THE LANCET, vol. ii., 1908, p. 132.

a bit of sugar. It is also very useful as a liniment, which may be formed with sulphuret of carbon ℥ij, and camphorated alcohol ℥iv; olive oil may perhaps be advantageously substituted for the camphor solution.—*Journal de Chimie.*

[The sulphuret of carbon is easily prepared by passing the vapour of sulphur over charcoal heated to redness, in a porcelain tube; it is a transparent, colourless liquid, of great levity, and producing intense cold by its evaporation. From the extreme cheapness at which it may be prepared, we are disposed to regard it as a valuable addition to our remedial agents.]

PRICE OF SUBJECTS IN PARIS.

To the Editor of THE LANCET.

SIR,—I observed in the last Number of your Journal an article on "medical education," to which was appended a note, stating the price of subjects to be in Paris about ten shillings. I beg to inform you that for the last three years I have resided in Paris, and have had an opportunity of knowing the price of subjects, and I assure you that five francs, or four shillings and twopence, is the uniform price for unopened subjects, and three francs, or two shillings and sixpence, for opened ones.

I am, Sir, respectfully yours,

23, Castle Street, June 1. JOHN FORDE.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7115 births and 3893 deaths were registered during the week ending June 5th. The annual rate of mortality in these towns, which had been equal to 14·7 and 13·9 per 1000 in the two preceding weeks, further declined to 12·3 in the week under notice, and was considerably lower than in any previous week of this year. During the first nine weeks of the current quarter the death-rate in these towns averaged 14·8 per 1000; the rate in London during the same period did not exceed 14·3. The lowest recorded annual death-rates in these towns last week were 3·1 in East Ham, 4·0 in Leyton, 5·1 in Wallasay, and 5·9 in Handsworth; the rates in the other towns ranged upwards, however, to 19·1 in Stockport, 19·4 in Wolverhampton, 20·1 in Wigan, and 24·0 in Merthyr Tydfil. In London the recorded death-rate last week did not exceed 11·6 per 1000. The 3893 deaths from all causes in the 76 towns last week showed a further decline of 483 from the numbers returned in the two preceding weeks, and included 359 which were referred to the principal epidemic diseases, against 413 and 417 in the two previous weeks; of these 359 deaths, 140 resulted from measles, 75 from whooping-cough, 55 from diarrhœa, 45 from scarlet fever, 33 from diphtheria, and 11 from "fever" (principally enteric), but not one from small-pox. The 359 deaths from these epidemic diseases last week were equal to an annual rate of 1·1 per 1000, against 1·3 in each of the two preceding weeks. No death from any of these epidemic diseases was registered last week in Croydon, Sunderland, Southampton, Halifax, or in 14 other smaller towns; the annual death-rates therefrom ranged upwards, however, to 3·4 in Norwich, 3·5 in Wigan, 5·0 in Wolverhampton, and 5·6 in Tynemouth. The fatal cases of measles in the 76 towns, which had been 168 and 178 in the two preceding weeks, declined again last week to 140, and were fewer than in any previous week of this year; they caused, however, annual death-rates ranging upwards to 2·2 in Salford, 2·3 in Bootle, 3·4 in Norwich, and 4·0 in Wolverhampton. The 75 deaths from whooping-cough also showed a considerable decline from the numbers returned in recent weeks; the highest death-rates last week from this disease were 1·6 in St. Helens, 2·0 in Great Yarmouth, and 2·8 in Tynemouth. The 55 deaths attributed to diarrhœa showed a slight further increase on recent weekly numbers, and caused an annual rate equal to 2·1 in Walsall. The 45 fatal cases of scarlet fever also showed an increase, and caused the highest proportional mortality in Burnley and in Tynemouth. Of the 33 deaths from diphtheria, 10 occurred in London and its suburban districts, three in Portsmouth, four in Manchester, and three in Leeds. The 11 deaths referred to "fever" showed a considerable further decline from the numbers in the three preceding weeks. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2173, 2234, and 2254 at the end of the three preceding weeks, had declined again to 2223 on Saturday last; 275 new cases of this disease [illegible] hospitals during last week, against 3[illegible] previous weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 214 and 225 in the two preceding weeks, declined to 172 in the week under notice and were 21 below the corrected average number in the corresponding week of the five years 1904–08. The deaths in London referred directly to influenza, which had been 20, 19, and 17 in the three preceding weeks, further declined last week to 10. The causes of 24, or 0·6 per cent., of the deaths registered last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. The causes of all the deaths registered during the week were again duly certified in London, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, Leicester, Salford, and in 53 other smaller towns; the 24 uncertified causes of death included five in Liverpool, five in Birmingham, and two both in Warrington and in Coventry.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 989 births and 582 deaths were registered in the week ending June 5th. The annual rate of mortality in these towns, which had been equal to 17·5 and 16·7 in the two preceding weeks, further declined to 16·3 in the week under notice. During the first nine weeks of the current quarter the death-rate in these Scotch towns averaged 16·9 per 1000, while in the 76 large English towns the mean death-rate during the same period did not exceed 14·8. The death-rates last week in these Scotch towns ranged from 12·3 and 14·0 in Greenock and Leith to 19·4 in Dundee, and 19·8 in Perth. The 582 deaths from all causes in the eight towns showed a further decline of 14 from the numbers returned in the two previous weeks, and included 59 which were referred to the principal epidemic diseases, against 76 and 68 in the two preceding weeks. These 59 deaths were equal to an annual rate of 1·7 per 1000, against 2·1 and 1·9 in the two previous weeks; the mean death-rate last week from these principal epidemic diseases in the 76 large English towns did not exceed 1·1 per 1000. Of the 59 deaths from these epidemic diseases last week in the Scotch towns, 25 resulted from whooping-cough, 15 from diarrhœa, seven from diphtheria, five from "fever," five from scarlet fever, and two from measles, but not one from small-pox. The fatal cases of whooping-cough in the eight towns, which had been 38 and 40 in the two preceding weeks, declined last week to 25, of which 13 occurred in Glasgow, nine in Edinburgh, and two in Greenock. The 15 deaths attributed to diarrhœa differed but slightly from the numbers in recent weeks, and included five in Glasgow, four in Dundee, and three both in Edinburgh and in Aberdeen. Of the seven deaths referred to diphtheria, showing a slight increase, five were recorded in Glasgow, and two in Dundee. Of the five fatal cases of "fever," four occurred in Glasgow and one in Greenock; three were certified as cerebro-spinal meningitis and two as enteric. Of the five deaths from scarlet fever, three were returned in Glasgow and two in Edinburgh. The two fatal cases of measles were fewer than in any recent week; they included one each in Aberdeen and Paisley. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 109 and 94 in the two previous weeks, were 93 last week, and exceeded the number in the corresponding week of last year by 18. The deaths from violence in the eight towns were 14, of which nine occurred in Edinburgh and three in Glasgow. The causes of 17, or 3·0 per cent., of the deaths in the eight towns last week were unspecified or uncertified; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·6 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been

22·3 and 21·7 per 1000 in the two preceding weeks, further declined to 18·2 in the week ending June 5th. During the first nine weeks of the current quarter the death-rate in the city averaged 22·1 per 1000, whereas the mean rate during the same period did not exceed 14·3 in London and 16·7 in Edinburgh. The 139 deaths of Dublin residents from all causes during last week showed a further decline of 27 from the numbers returned in the two preceding weeks, and included 11 which were referred to the principal epidemic diseases, against nine and 13 in the two preceding weeks. These 11 deaths were equal to an annual rate of 1·4 per 1000, the death-rate from these epidemic diseases in the same week being only 1·3 in London, but was 2·1 in Edinburgh. Of the 11 deaths from these epidemic diseases in Dublin last week, four resulted from whooping-cough, three from "fever," two from measles, and one each from scarlet fever and diarrhœa, but not one either from diphtheria or small-pox. The 139 deaths in the city last week included 17 of infants under one year of age and 44 of persons aged upwards of 60 years; the deaths of infants showed a considerable decline and were fewer than in any previous week of this year. Five inquest cases and three deaths from violence were registered last week, and 52, or 37·4 per cent., of the deaths occurred in public institutions. The causes of three, or 2·2 per cent. of the 139 deaths registered in Dublin last week were not certified either by a registered medical practitioner or by a coroner; all the causes of the 1072 deaths registered in London last week were duly certified, whereas in Edinburgh the proportion of uncertified causes of death was equal to 4·2 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff-Surgeons: A. C. Bean to the *President*, additional, for temporary service at Medical Department, and E. D. J. O'Malley to the *Boadicea* on commissioning.

ROYAL ARMY MEDICAL CORPS.

Captain James M. Buist is placed temporarily on the half-pay list on account of ill-health (dated June 4th, 1909).

INDIAN MEDICAL SERVICE.

Lieutenant J. A. S. Phillips has been appointed to the medical charge of the 106th Hazara Pioneers. Captain H. O. Buckley has been appointed to the medical charge of the 31st Lancers.

TERRITORIAL FORCE.

Royal Army Medical Corps.

The arrangements for the training at military hospitals of the matrons on the rolls of Territorial general hospitals have been approved by the Army Council. Each hospital is allowed two matrons. The hospitals appointed for the training are the Royal Victoria Hospital, Netley; Queen Alexandra Military Hospital, Millbank; Cambridge Hospital, Aldershot; Connaught Hospital, Aldershot; Military Hospital, Devonport; Royal Herbert Hospital, Woolwich; Alexandra Hospital, Cosham; and Military Hospital, Colchester. It is proposed that the training time shall be from June to October in each year. General officers commanding-in-chief have been directed to send to the War Office as early as possible the names of matrons who can give attendance for training in the present season.

South Wales Mounted Brigade Field Ambulance: Captain John R. I. Raywood to be Major (dated Feb. 25th, 1909).

2nd Home Counties Field Ambulance: George Thomas [illegible]

[illegible] nbe to [illegible]

[illegible] Arthur John Martin to be [illegible]

[illegible] eutenant-Colonel Joseph Griffiths to be Colonel (dated May 6th, 1908).

For Attachment to Units other than Medical Units.—[illegible]

Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Robert Ross Brown, from the 1st Kent Royal Garrison Artillery [illegible] ant-Colonel with the [illegible] h precedence as in the [illegible] Surgeon-Lieutenant- [illegible] Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). Supernumerary Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel William Dakin Waterhouse, from the 4th Volunteer Battalion, The Royal Fusiliers (City of London Regiment), to be Lieutenant-Colonel, with the honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). [illegible] ary Surgeon-Colonel [illegible] Volunteer Battalion, [illegible] to be Lieutenant-Colonel, with the honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Captain Arthur Conning Hartley, from the 1st Bedfordshire Royal Engineers (Volunteers), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). [illegible] 1908). Captain Richard Emmett to be Major (dated Oct. 23rd, 1908). Captain Alan Y. Greenwood resigns his commission (dated March 22nd, 1909).

Attached to Units other than Medical Units.—Lieutenant-Colonel and Honorary Surgeon-Colonel James K. Anderson relinquishes his commission, under the conditions of paragraph 59, Territorial Force Regulations, and is granted permission to retain his rank and to wear the prescribed uniform (dated March 3rd, 1909). Owen John Parry-Edwards to be Lieutenant (dated April 15th, 1909). Lieutenant-Colonel Arthur D. Webster resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated April 20th, 1909). Surgeon-Captain James Herbert Dixon, from the Welsh Divisional Engineers, to be Captain (dated May 6th, 1908).

THE JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

In the June issue of this journal Captain R. Tilbury Brown, R.A.M.C., continues his practical article "Hints on Camping Arrangements for Sanitary Officers," which has been written with a view of giving to medical officers of the Territorial Force useful hints on camp sanitation. The first part of the communication, which was published by our contemporary last month, dealt with the selection of the camp site, water-supply, latrines, and so forth, while the current contribution deals with the arrangements to be made before the arrival of troops, the general organisation of the camp, and the duties of the sanitary squad. The article is to be continued. Some notes written by Major E. T. F. Birrell, R.A.M.C., in appreciation of the organisation of the army, with special regard to the removal of sick and wounded from field medical units to the lines of communication, is mainly composed from official sources and affords interesting reading, as does also the "Australian Army Medical Corps," written by Major S. F. Clark, R.A.M.C. Major J. C. Morgan, R.A.M.C., and Captain D. Harvey, R.A.M.C., jointly contribute an important paper on an Experimental Research on the Viability of the Bacillus Typhosus as excreted under Natural Conditions by the "Chronic Carrier," and Major S. L. Cummins, R.A.M.C., deals with surface vaccination in suspected cases of tubercle. Among the clinical notes is one on a diphtheroid bacillus isolated from water, which the author, Major J. G. McNaught, R.A.M.C., states has not been tested for pathogenicity; and there is an account of the Zittman treatment of syphilis at Netley by Major D. Lawson, R.A.M.C. This treatment, in spite of the great discomforts attending it, seems to be popular among the men. Many medical officers, the author states, who have had charge of this treatment, believe that in the case of men invalided from India who have been a very long time on mercury, and have accumulated a very large quantity in the tissues, the course benefits by assisting them to excrete the drug.

THE RED CROSS SOCIETY AND THE TERRITORIAL SCHEME.

Mrs. C. Davies Gilbert, vice-president of the district branch of the British Red Cross Society, Eastbourne, on

June 3rd gave an "At Home" at Manor House, Eastbourne, at which Sir Frederick Treves was present. In a brief speech Sir Frederick Treves said that an extensive movement, which was not yet completely developed, was proposed for the Territorial Army. The War Office was about to issue a memorandum of what it hoped the Red Cross Society would do under the Territorial scheme in case of need.

Correspondence.

"Audi alteram partem."

THE MEDICAL TREATMENT OF LONDON SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—The profession is indebted to you for your judicious editorial comments on this difficult question and for the opportunities you have afforded us to discuss its many bearings in your correspondence columns. There seems reason to believe, thanks largely to your efforts, that all interested in this subject may be brought to agree that from a strictly professional point of view the proposal of the County Council to make use of voluntary charities to secure treatment for their scholars should be strenuously resisted by medical practitioners. No schemes for applying the County Council's subsidy to provide honoraria for senior students or clinical assistants or to pay a nominal rental for unoccupied out-patient departments can conceal the fact that this proposal cuts at the root of what should be a fundamental professional principle—viz., that unpaid professional service should not be given to institutions which are supported or aided by grants from the rates or the exchequer. This is a principle which applies, not only to medicine, but to all other professions and occupations by which men or women earn their living and is one which needs to be constantly remembered in these days of increasing state and municipal activity.

Unfortunately, it is not enough for the profession to recognise the danger of acceding to this proposal of the County Council in order to ensure that it will not be adopted. There is reason to suppose that at some hospitals the governors may take up the position that this is a matter in which they are not bound to be guided by medical opinion. That the profession is not sufficiently united to make its wishes prevail in such circumstances is a matter for profound regret; but may we not hope that such a condition will before long be remedied? In the meanwhile it seems desirable that we should be able to point out to our lay governors that there are reasons altogether outside this professional principle which make it desirable to refuse the County Council's proposal.

There are two features of this proposal which are a serious menace to the great system of voluntary hospitals, of which the majority of Britons are justifiably proud. There is, first, the acceptance of money from a body representing the whole community and able to compel contributions to its funds; and, secondly, the entrusting to the same lay authority the responsibility of selecting cases for medical treatment. It should not be difficult to persuade the governors of hospitals that to accept money from the rates or the exchequer will very shortly render their hard financial task still harder. Many of these have been interested in voluntary schools and will remember the chief cause of the intolerable strain of supporting these institutions. It is of the essence of charitable effort that it should be actuated by a greater sympathy or by a greater foresight than that possessed by the community at large. So soon, therefore, as the philanthropist finds that his example is about to be followed by the community, as represented by the County Council or Parliament, he ceases to subscribe and finds some other charitable object in which he may hope again to lead public opinion. The knowledge that a definite grant is made annually by the County Council to a voluntary hospital, even though it be for a restricted part of its work, will, if precedent be followed, speedily lead to a loss of voluntary subscriptions and legacies of far greater value than the subsidy. The other dangerous feature of the County Council's proposal is not so easy to bring home to those who are interested in the voluntary hospitals, whether as governors or medical staff. Nevertheless, it is of vital importance and must be kept well in mind in handling this question as well as in dealing with the important changes in hospital administration that will come when the Poor-law medical service is reformed. If our great voluntary hospitals are to survive the awakening of the public conscience as to medical matters which the activity of the County Council and the Poor-law Commission's report indicate, it can only be by their impressing on the philanthropic public that they will still be able to provide for the public something altogether different from the medical service provided by the municipality or the State, or whatever body it may be which will take the place of the "broken-up" Poor-law.

It is true that in the past the voluntary hospitals, shocked by the inefficient medical service supplied by the State, have supplemented its deficiencies and provided the simplest medical treatment for all-comers. Already this has become almost unnecessary, and in the future voluntary hospitals must base their appeal for support on the grounds that their service is not parochial but is Empire-wide, and consists essentially in dealing with obscure and difficult cases and in the making of medical knowledge and its diffusion throughout the world. To establish and consolidate this position is the duty of everyone who believes that voluntary hospitals are worth maintaining. No more serious blow could be dealt to the unique reputation of these institutions than for our governors to contract with the County Council for the wholesale treatment of ailments which are said to afflict 5 per cent. of the children attending the schools. Let the County Council make whatever arrangements it sees fit with medical practitioners to treat these patients in the immediate neighbourhood of the child's home or school, and let the medical man entrusted with this duty recommend the help of the hospitals in those cases which are found on full investigation to require special facilities for diagnosis or treatment.

I am, Sir, yours faithfully,
June 6th, 1909. LAURISTON E. SHAW.

FRACTURE OF THE SCAPHOID BONE OF THE WRIST.

To the Editor of THE LANCET.

SIR,—You invite your readers to record any cases similar to that reported by M. Judet. I can recall several such. One was that of a boy, aged 15 years, who fractured his scaphoid in turning a hand somersault. When seen some seven weeks after the accident he possessed but little movement at the wrist, while any attempt at extension was very painful. Pressure over the bone even at this date was resented and there was considerable pain at night over the outer and palmar aspect of the hand. The x ray showed a transverse fracture through the centre of the bone, with dorsal displacement of the inner half. I have not met with any old case which did not exhibit limitation of movement most marked in the direction of flexion.

Fracture of the scaphoid is easily the most common of the carpal bones. It occurs with rare exceptions from a fall on the extended hand. The most obvious clinical sign is an acute pain when the wrist is forcibly adducted and extended. In addition one finds a swelling over the radial wrist on the dorsal aspect, a general rigidity and, as Codman and Chase have pointed out, an acute tenderness in the anatomic snuff-box when the hand is adducted. In some cases I have noted a painful area covering the palmar aspect of the thumb and index finger. I have detected crepitus in one case only.

In a recent case I would recommend the surgeon to put forcible pressure over the scaphoid while the wrist is flexed and adducted. This is best done through the snuff-box between the first and second extensors of the thumb. The wrist should in any case be kept fixed in the well-extended posture for at least a fortnight. During this hyper-extension the fingers should be left so that they may be voluntarily freely moved. For two weeks more massage and movement should be alternated with fixed hyper-extension and then treatment may end. I am convinced that immediate mobilisation and massage is a grave error. In old cases forcible wrenching under anæsthesia and fixation in hyper-extension offers the best mechanical advantage to wrist and fingers. In two instances I have excised the prominent fragment with relief as regards pain but with no increase of mobility. I am, Sir, yours faithfully,

Liverpool, June 8th, 1909. ROBERT JONES.

MICROCOCCUS TETRAGENUS AS A PATHOGENIC ORGANISM.

To the Editor of THE LANCET.

SIR,—In the Proceedings of the Royal Society of Medicine (Clinical Section) for April, 1909, Dr. E. von Ofenheim contributed a paper on the Vaccine Therapy of *Septicæmia*, in the course of which he commented on the scarcity of the literature concerning micrococcus tetragenus infections. It accordingly seems worth while to place on record my experience of that organism. In 1901–1902 I was serving in H.M.S. *Galatea* in home waters, and from the suppurations (boils, &c.) which occurred recovered what organisms I could. In that ship I only once found a gelatin-liquefying coccus (staphylococcus); I never found a streptococcus, but from all the cultures worked out I obtained what was, I have no doubt, micrococcus tetragenus. I recognised it in smears of sputa as well in that ship. I also found, once only, a pathogenic yeast growing in a venereal sore. I have never found M. tetragenus in other ships. M. tetragenus seemed to me to be associated with little pus formation, but to excite large phlegmons (extensive surrounding swelling and redness) and to cause much, sometimes profuse, serous discharge.

Dr. von Ofenheim speaks of a septicæmia in rats and mice caused by this organism. I do not think we had any mice in the ship, and rats must have been few, as I have no remembrance of them. In those days we did no blood cultures, and I am sorry to have no further information. Still, it is a matter of some interest that the same observer should have found micrococcus tetragenus frequently associated with the suppurations of one ship, yet never in those of another, both these ships being in English waters.

I am, Sir, yours faithfully,
W. E. HOME,
H.M.S. *Daedalus*, Bristol, May 30th, 1909. Fleet Surgeon, R.N.

THE AFTER-TREATMENT OF CATARACT EXTRACTION.

To the Editor of THE LANCET.

SIR,—I have read Mr. A. Lawson's lecture in THE LANCET of May 29th on the after-treatment of cataract extraction with particular interest, because for the last 15 years I have adopted a different method which, I think, makes the patient more comfortable both in body and mind. So far no bad results have occurred which could reasonably be traced to the freedom my patients enjoy, and the number of extractions (about 700) is sufficient to have disclosed any serious dangers attaching to my plan.

After the operation the eye is covered with a small piece of cotton-wool, fitted carefully into the inner corner by the nose, and this is kept in place by a piece of fine isinglass plaster. The plaster is pulled just tight enough to exert a little pressure over the inner corner of the eye, but no pressure is made on the globe; a very slight pressure in the corner will keep the lids closed. Over the wool, but not pressing on it, is placed a conical shield of Willesden roofing paper, and this is fixed in position with short strips of isinglass plaster, one over the bridge of the nose and the others on the cheek and forehead. The unoperated eye is never covered, nor are the hands tied; the shield will resist a hard blow, and the eye is never accidentally injured under it. A shield stuck on in this way is much more comfortable than any bandage round the head.

I do the operation in the morning and make the patient go to bed and keep very still all day, and the next morning, unless there is some special reason against it, which is very seldom the case, he gets up and sits in a chair, keeping fairly quiet. On the morning after the operation the shield is taken off, the wool changed, and a drop of atropine and cocaine applied; subsequently the eye is dressed each morning, but the atropine is not used oftener than is necessary to keep up the dilatation of the pupil. In the summer the patients are often out in the garden on the third or fourth day after the operation and derive much benefit from it; they eat their ordinary food and, in fact, are not treated as sick people at all.

I never tell a patient to expect pain, but tell him that if he should chance to get any after the operation he need not be alarmed at it. A large number say they have no pain. I believe pain may be caused by pressure on the eye and by the heat of a thick dressing, and am therefore careful to use only a little wool and to apply what little pressure is necessary to keep the eye shut only in the corner. An empty anterior chamber is not necessarily a cause of pain, for it may be empty for days together without any pain at all. At one time I bandaged both eyes and kept the patients in bed, but gradually gave up such irksome details as seemed to be possibly unnecessary and, if so, harmful, and have thus arrived at my present plan.

There is nothing worse for old people than thoroughly to upset their accustomed way of life, and, by making "heavy weather" of their treatment, give them the idea that they are undergoing some dangerous process. Of course, anxiety is inseparable from surgery, but the surgeon should keep it to himself, and the more light-hearted the patient can be kept the better will he recover and the less will his pain hurt him. To blindfold a patient, handcuff him, feed him on slops, tell him to lie still in bed and keep his mouth open if he moves, and to expect pain—all this seems to me the best way to ensure that he shall be nervous and have pain; and if to this suggestive treatment is added a dose of chloral there is surely enough to account for the night terrors and dementia Mr. Lawson describes without the shock of the little operation. If all this treatment were necessary for the safety of the eye it would have to be endured, even though it is obviously bad for the patient. My experience convinces me that it is not necessary, and that patients may get through the operation for cataract without any material discomfort. I am, Sir, yours faithfully,

J. F. BULLAR, M.B. Cantab.,
Southampton, June 1st, 1909. F.R.C.S. Eng.

THE EMMANUEL MOVEMENT AND THE MEDICAL PROFESSION.

To the Editor of THE LANCET.

SIR,—We are constantly in receipt of letters from your side of the Atlantic which show that there is a widespread misunderstanding among physicians, clergymen, and others as to the principles and methods of what has come to be known as the "Emmanuel Movement." As those who are responsible for the inauguration and general guidance of this work, we feel it to be our duty to correct this misconception, and to acquaint the British public with the real aims and motives of our undertaking. We ask you, therefore, to be good enough to publish the following statement:—

The fundamental purpose of the Emmanuel Movement is to ally in friendly coöperation the doctor of medicine, the psychologically qualified minister of religion, and the trained social worker with a view to the alleviation and arrest of those semi-nervous, semi-moral disorders which go by the name of "functional disorders of the nervous system." Hence, our aim is not to found or propagate a healing cult, or to practise medicine, or to substitute our activities for those of the physician. We could not do any of these things and at the same time retain our self-respect. On the contrary, our aim is to assist the physician in those cases where a moral or spiritual problem is involved. From the very beginning we have associated ourselves with reputable medical men, and without the general coöperation of the medical profession our enterprise would come to an end. The whole work is under rigid medical control, as will be seen from the following rules which we have adopted: (1) No person shall be received for treatment unless with the approval of and having been thoroughly examined by his family physician, whose report of the examination shall be filed with the church clinic records; (2) no patient shall be referred for diagnosis or treatment to any specialist or assistant save with the advice and consent of the patient's own physician; (3) all patients who are not under the care of a physician must choose one, and be themselves in his care before they can receive treatment at Emmanuel Church. It thus rests wholly with the physicians and not with the clergymen to decide whether a patient should be referred to a neurologist or other specialist, and which cases, if any, are suitable for treatment by moral and religious re-education. In view of these facts, we must decline to be held responsible for the action of any individual or organisation acting in contravention of any of these principles or methods. In England the committee which represents our work bears the title "Church and Medical Union."

We are, Sir, yours faithfully,
ELWOOD WORCESTER.
SAMUEL MCCOMB.

Emmanuel Church, Boston, U.S.A., May 24th, 1909.

CASE OF CEREBRAL HÆMORRHAGE FOLLOWED BY HYPERPYREXIA AND DEATH.

To the Editor of THE LANCET.

SIR,—In THE LANCET of May 15th, 1909, p. 1386, Mr. Vincent P. Norman describes a case under the above heading, and adds, "a clinical fact not often recorded if we judge from a perusal of literature bearing on the subject."

The above remark, and my having had a similar case some time ago, must be my excuses for recording the following. The case occurred on board the R.M.S. *Oropesa*, of the Pacific Steam Navigation Company. The patient, a lady, aged 53 years, was very stout and of plethoric appearance. Her husband informed me that she had always been in fairly good health, and as a rule took but little alcohol. Soon after leaving Lisbon, however, I noticed that she took a good quantity of red wine with her meals, and as we got into tropical heat the quantity was considerably increased. On the third day after leaving St. Vincent, Cape de Verde Islands, I noticed that her face was very congested, and I feared apoplexy. About 4 A.M. the following morning I was hurriedly sent for to see the lady in question, the steward informing me that she had had a "fit." On my arrival I found the patient quite unconscious, pupils were dilated and inactive, radial pulse could not be counted, respiration was at first markedly stertorous, becoming later Cheyne-Stokes in character, and there was complete relaxation of her extremities. Her face was very cyanosed and she was obviously dying.

The point, however, that impressed me most was the sensation of extreme heat imparted to my hand. I had felt nothing like it before, and for this reason I decided to take her temperature. In the axilla the thermometer registered 107·8° F., and in the rectum 108·6° F. To make sure that the thermometer was accurate I obtained another one, which gave precisely the same result. The patient died within an hour of my seeing her, and was buried at sea the next day.

I am, Sir, yours faithfully,
MORGAN RICHARDS, M.D., B.S. Durh.

Chelsea, S.W., June 4th, 1909.

FERGUSSON *v.* MALVERN URBAN DISTRICT COUNCIL: APPEAL OF PLAINTIFF BEFORE HOUSE OF LORDS.

To the Editor of THE LANCET.

SIR,—Mr. F. W. Joshua writes under the above heading in your last issue "to prevent any misconception of the true state of facts that may arise from reading" my letter in your issue of May 29th. I cannot see that his letter is called for by anything I said in mine, nor can I see that it serves any useful purpose; but Mr Joshua probably differs from me on this point. On the contrary, I think that his letter, far from fulfilling its object, renders the case liable to be misunderstood, as anybody reading it, and not having followed the case closely, would naturally conclude that my father had stolen the water-supply. Such a conclusion is quite wrong, and is detrimental to the character of a medical man; and it is on this account that I now beg the hospitality of your columns to enable me to correct the inevitable misapprehension that must arise from a perusal of Mr. Joshua's letter.

The jury found that Dr. Fergusson had no right to the water, because he could produce no documentary or other evidence that he was entitled to it. There is unimpeachable evidence that the pipe conveying the water had been exactly as it was found as long as Dr. Fergusson had occupied the establishment, 16 years, and that no alteration whatever had been made to it by anyone with his knowledge or on his behalf. It was probably the original means of supply from the time when the house was built in 1843, a time when no public supply existed and when anybody was at liberty to take water wherever it was to be found. This explains the absence of evidence as to ownership; and the jury had no alternative to finding that my father had no legal right to it.

The idea that he was *fraudulently* using it is negatived by the fact that the jury found him not guilty of contributory negligence, as was alleged by the defendants. Some of the wild assumptions and ridiculous conjectures which the jury were asked to believe, *without evidence*, were of a damaging character, and included the idea of my father having stolen the water. Repetition of these assumptions in the House of Lords was promptly cut short by the Lords asking point-blank whether there was any evidence whatever in support of them; as the Lord Chancellor said, "We want facts, not theories."

I think I have said enough to justify the last paragraph of my letter in your issue of May 29th, and to correct the impression which must be left by Mr. Joshua's letter; my father has through no fault of his own lost his case, but has emerged with a clean character, in spite of much "mud-throwing," and on that account he deserves the sympathy of all, especially his professional brethren.

I am, Sir, yours faithfully,
J. N. F. FERGUSSON, M.B. Cantab.

Malvern Hydropathic Establishment, Great Malvern, June 9th, 1909.

A PLEA FOR THE USE OF ANTI-DIPHTHERITIC SERUM.

To the Editor of THE LANCET.

SIR,—In my letter published in THE LANCET of June 5th under the above heading the report of Case 1 should have read as follows:—

"I saw C. D. on Nov. 5th, 1906, at 9 A.M., with quinsy, soft palate very red and œdematous, with a patch of membrane on left tonsil. He had been using hot inhalations of Friar's balsam but could not swallow. At 10.30 A.M. I injected 4000 B.U. and at 10 P.M., when I again visited him, he could swallow easily; a swab was taken with negative results. *The next day he had a profuse scarlet fever rash.* The case ran an ordinary course, but the quinsy aborted." In my communication the words which I have italicised were inadvertently omitted, and as they form the central feature of the case I trust you will allow me space to correct the slip.

I am, Sir, yours faithfully,
FRANK ARGLES.

Wanstead, N.E., June 5th, 1909.

THE GERMAN CONGRESS OF INTERNAL MEDICINE.

(FROM OUR BERLIN CORRESPONDENT.)

THE German Congress of Internal Medicine was held at Wiesbaden from April 19th to 22nd, Professor SCHULTZE (Bonn) being in the chair.

Diseases of the Stomach.

Professor LENHARTZ (Hamburg) presented a report on the results obtained by his method in the treatment of gastric ulcer. I may here mention that copious details of the method were contributed by Dr. J. Victor Haberman of Hamburg to THE LANCET of July 7th, 1906, p. 25. Professor Lenhartz said that the special features of his system included absolute rest in bed for at least four weeks and the wearing of an ice-bag over the stomach. Instead of the usual starvation diet the patient, even when hæmatemesis has occurred, received on the first day iced milk and four beaten-up eggs, sometimes with a little wine. The daily quantity of food was gradually increased, so that on the seventh day the patient began to take eight eggs, 40 grammes of sugar, 800 grammes of milk, 70 grammes of chopped raw meat, and 100 grammes of milk and rice;

while on the fourteenth day he began to take eight eggs, 50 grammes of sugar, 1000 grammes of milk, 70 grammes of chopped raw meat, 200 grammes of milk and rice, 100 grammes of zwieback (a kind of rusk or "pulled bread"), 50 grammes of raw ham, and 40 grammes of butter. Professor Lenhartz pointed out that the starvation diet formerly in use was very detrimental, especially to anæmic patients, and that the egg albumin answered well for fixing the free hydrochloric acid in the stomach. There had now been 295 cases treated by this method—262 of them immediately after severe hæmorrhage. Of these cases only seven—i.e., 2·3 per cent.—terminated in death. In only 18 cases did fresh hæmorrhage occur. Ne[illegible] given, as it was essential [illegible] The death-rate was muc[illegible] under any other, Dr. Leube's method included. The patients [illegible]ital until no blood had been [illegible] weeks. When hæmorrhage [illegible] must be suspected to be one of either cancer or cirrhosis of the liver.

Dr. ROSENFELD (Breslau) said that the aim of treatment in all diseases of the stomach was to prevent occlusion of the pylorus. *This was done by the administration of fat in the* form of cream. The other food must be prescribed according as free hydrochloric acid was present or absent; in acidity of the stomach albuminates must be given and carbohydrates avoided; in hypo-acidity of the stomach it was advisable to give albuminates sparingly and carbohydrates freely. The meals should be taken at intervals of six hours, so as to allow the stomach sufficient repose. Previously to the above diet, for four days the food should consist of nothing but cream in a quantity of 500 grammes three or four times a day. This diet had a styptic effect in hæmorrhage of the stomach, it opened the pylorus, and decreased the hyperacidity.

In the discussion, Professor von LEUBE (Würzburg) stated that among 627 cases of gastric ulcer treated by him during the past 11 years the mortality was 0·3 per cent.; in cases attended with hæmorrhage it was 2·5 per cent. He pointed out that the four principles aimed at in his treatment were absolute rest *for a fortnight, small doses of Carlsbad* salts, hot poulticing, and starvation diet. He was in favour of abstinence from food, because vomiting was often produced even by small quantities. In hæmorrhage lasting for two or three days total abstention from food was advisable. The administration of morphine was useful for checking peristalsis and adrenalin for checking hæmorrhage. He agreed with Professor Lenhartz that purgatives should be avoided.

[illegible] attention to the fact [illegible] were evident points of [illegible] of north and south *Germany respectively, and that owing to these differences* there might be diversities of opinion on questions relating to diet. In north Germany hyperacidity was rare.

Dr. GERHARD (Basle) gave comparative statistics of the Leube and Lenhartz procedures. He said that patients treated by Leube's system could leave their beds on an average after 19·4 days and could leave the hospital on an average after 39·6 days; the corresponding figures under the Lenhartz system were 25·1 and 40·3 days.

Professor SCHMIDT (Halle) said that rest in bed was more important than the diet; by the *horizontal position* of the body in bed the stomach became able to move its contents.

Dr. VON TABORA (Stra[illegible]es of atropine for the purpose [illegible] Of 100 patients treated acc[illegible] had after a *fortnight only a little decreased in weight,* while 42 had even increased.

The Action of Digitalis on the Organs of Circulation.

Dr. OTFRIED MULLER (Tübingen) said that intravenous injections of digalen and strophanthin in the usual doses did not produce an obvious effect on the vessels. Under the use of digitaline the force of the cardiac contractions was only slightly increased in healthy persons, but it was strongly increased in cases of weakened heart. Digitalis and its compounds were cardiac tonics, whilst carboni[illegible] acted on the vaso-motor system.

Dr. FLEISCHMANN (Berlin) recommended [illegible] strophanthin for intravenous injections instead [illegible] In patients suffering from cardiac [illegible] ften striking, the pulse becoming [illegible] cyanosis disappeared.

Dr. VOLHARD (Mannheim) recommended that in disorders *of the circulation adrenalin should be injected in doses* varying from 0·5 to 1·0 milligramme. The effect of this was that cyanotic patients acquired a pale complexion, the blood pressure increased, and a general improvement manifested itself.

Professor KRAUS (Berlin) said that he approved of the administration of adrenalin in syncope, and he had even given six injections daily without any ill-effect. Used in this way adrenalin was always satisfactory and it had evidently a tonic action on the heart.

Professor HEUBNER (Berlin) said that he had given in 12 *hours to children suffering from septic diphtheria as much as* 12 cubic centimetres of a solution of adrenalin of strength 1 per 1000.

Peripheral Sensibility.

Dr. HENRY HEAD (London) read a paper on Peripheral Sensibility and its Estimation. In his opinion the afferent nerves were of three kinds, respectively conveying impulses which were sorted in the central nervous system into the three great functional groups of (*a*) touch, (*b*) pain, and (*c*) temperature and sense of position. Recovery of sensation after complete division of a peripheral nerve began with disappearance of the analgesia and with the return of sensibility to the extreme forms of temperature, but the area over which gentle touching could not be felt remained unaltered for a much longer period. The recovered sensibility to heat and cold was due to the presence of minute areas ("hot and cold spots"), each of which could be stimulated by heat or cold alone. This form of sensation was designated protopathic sensibility. At a later period it became possible to discriminate two points with more or less approximation to the normal accuracy. This form of sensibility was designated epicritic, since it was peculiarly *associated with the localisation and discrimination of* cutaneous stimuli. Every peripheral afferent nerve contained protopathic and epicritic fibres.

Dr. SCHÖNBORN (Heidelberg) said that he had made a trial of Dr. Head's methods in 60 cases of organic nervous disease and in his opinion they gave satisfactory results. For testing the rise of temperature he recommended Miescher's apparatus, which was preferable to the [illegible] which had nothing to do with a diminution of the cold points, but must be regarded as a protopathic feeling of discomfort. There was apparently a contradiction in Dr. Head's opinion that this protopathic zone was only observed in troubles of *the peripheral nerves, but it must be considered* that the disease was localised, not in the medulla, but in the region of the roots. Dissociation of disorders of peripheral sensibility was much more frequent than has hitherto been suggested and could be recognised only by the exact method of Dr. Head.

Professor GOLDSCHEIDER (Berlin) said that the existence of [illegible] nervous system seemed to [illegible] facts observed by Dr. He[illegible] of stimulation. Dr. Head's protopathic *state was, in his opinion,* identical with Professor Leyden's relative hyperæsthesia. The difference between deep and other sensibility was justified. Such differences as those between the protopathic and epicritic systems were seen when the nerves were compressed, and even when menthol was *applied* to the skin. Such relative hyperæsthesia was observ[illegible] not always justifiable *from* [illegible] of sensation to assume the [illegible] of fibres. Irradiation in the protopathic stage was caused by the cohesion of the nerve fibres in the central region. In the peripheral part of their course the elements were lying together; in the medulla they were separated, but a connexion was maintained by the ganglia. *This* was the cause [illegible] points had [illegible] the genesis [illegible] explained; it possibly depended on an [illegible] ensibility.

Dr. HEAD, in his reply, said that Professor Goldscheider's view with regard to the connexion of the fibres was not in

With comparatively dry air, the oftener it is changed in the shed the more necessary is it to have artificial humidity in aid of the weaving process. In 1902 the Haldane Committee recommended a standard of 12 volumes of CO_2 per 10,000, or 20 volumes when gas or oil is used for lighting. This proposal was much criticised, and by some considered reactionary, and so required careful consideration by the committee. *Authorities, such as Parkes, de Chaumont, and* Pettenkofer, recommended a standard of six to ten volumes per 10,000, and it has been generally accepted that the CO_2 was an indication of other impurities injurious to health rather than the CO_2 itself. This idea, however, seems now to be looked upon as "early Victorian." The trend of opinion now is to treat the idea of something injurious existing in expired air beyond the CO_2 itself, as a myth, and that far more CO_2 in the air can be breathed comfortably than is usually thought desirable provided that other conditions are favourable and that the supply be continuously changed. For instance, there is a mill in Blackburn where the same class of goods is manufactured in two sheds under the same roof but divided by a partition. In one shed there is artificial humidity while the other is "dry." In the latter the CO_2 varied between 34 and 41 volumes per 10,000 during many months, yet the workers were as healthy as those in the "wet" shed where the standard was maintained. No single complaint was made by the operatives in the dry shed where there is no legal standard, while in the humid shed complaints were universal.

The evidence of Dr. Haldane, Dr. Leonard Hill, Dr. M. S. Pembrey, and Dr. A. E. Boycott goes to show that the ill effects of crowded rooms are due less to the percentage of CO_2 than to other factors, as "the heat, humidity, and nervous fatigue from excessive illumination and excitement." They say:—"One cannot detect any bad effect from 60 volumes per 10,000 when the temperature of the room is low;" and "The important thing is to keep the wet bulb temperature low." "The quality of freshness and stuffiness in a building, and in consequence the energy or slackness of the inhabitants, has nothing to do with the content of the air in CO_2 as such. Cool air free from unpleasant smell but containing 3 per cent. of CO_2 "is found to be a distinctly invigorating mixture." These opinions are backed up by many quotations from European and American physiologists to the effect that, contrary to the old idea, "There is no poison in breath." "Whenever in shut-up, crowded rooms certain impairment of health ensues, involving headache, dizziness, sickness, &c., these symptoms are attributable solely to heat retention." "The normal conditions of the surrounding atmosphere, viz., temperature, humidity, and movement, are of enormously greater importance for our comfort and health than the chemical composition of the air. Further, the refreshing sensation noticeable on abundant ventilation of closed rooms or in the open air, results not from the greater chemical purity of the air, but from the more rapid heat-loss from the body." It is easy to understand that, influenced by these views, the committee feels justified in recommending that in humid sheds the standard of ventilation should be 12 volumes of CO_2 per 10,000, and that when gas or oil is used for illumination 20 volumes of CO_2 in 10,000 should be allowed.

As regards the maximum temperature of the wet-bulb thermometer the committee thinks that the evidence scarcely justifies it in coming to a final conclusion. Notwithstanding this, it unanimously expresses the opinion that the discomfort and possible injury of the operatives can best be met by fixing a maximum limit of wet-bulb temperature and by securing between the wet- and dry-bulb temperatures a difference sufficient to prevent the deposit of moisture. The use of steam for humidifying is generally condemned. [illegible] urators" which [illegible] of ventilation [illegible] truction of the sheds, by which the air-intake is in the roof, and so is heated by the outflowing air. It is urged that the whitewashing of the roofs should be more thoroughly done, and the steam-pipes should be kept better covered. It is also suggested that the taking of the body temperature, which was begun by Dr. E. L. Collis, H.M. medical inspector of factories, should be resumed, especially in sheds where the heat is abnormally high. They should be visited on the hottest days of the summer, so that some definite information as to the effects of working in damp atmospheres at high temperatures could be obtained. To carry this out it is suggested that the help of [illegible] be obtained, and if this [illegible] be hoped that this extr [illegible] pay. Steaming has, it seems, been largely superseded by appliances for introducing "atomised" water into the sheds, and frequently this is also used for the double purpose of *ventil*[illegible] *s the wet-bulb* [illegible] s very unpopul[illegible] Burnley, Nelson, and Colne the operatives have steadily refused to work in the sheds if artificial humidity is introduced, and no standard of ventilation has been fixed for them. The amount of CO_2 in these sheds in winter is, on the average, 16·5 volumes in 10,000, but exceptionally this is much exceeded, and legislation is desirable in these cases. Mechanical ventilation does not seem to be much used in the dry sheds, but it has been complained of as causing draughts, which would probably not have been the case if the incoming air had been warmed. The purity of the water used is, of course, important, and with the assistance of Mr. Scudder a standard of purity has been agreed on. Briefly, "any water which absorbs from acid solution of permanganate of potash in four hours at 60° more than 0·5 grain of oxygen per gallon of water shall be deemed to be liable to cause injury to the health of the persons employed." Cloak-rooms are recommended, but there are some difficulties met with. A self-registering hygrometer, to do away with the labour at present involved in taking records three times daily, is very desirable, but none so far are fitted to stand the dust and vibration of the weaving sheds.

Summarising the recommendations of the committee, a limit of the wet-bulb temperature should be fixed at which all admission of artificial humidity should cease, the limit to be determined by early experiment and to be the lowest necessary for efficient weaving. The schedule of humidity should be amended by eliminating all temperatures above the maximum, to be hereafter determined, and all temperatures below 50° on the dry bulb. The standard of ventilation in humid sheds should be altered from 9 to 12 volumes of CO_2 per 10,000. That in dry sheds 15 volumes of CO_2 in 10,000 should be the standard; that draughts must be avoided in the sheds; that a standard of purity should be fixed for water to be used for the purpose of humidifying; that there should be cloak-room arrangements; that the readings of the thermometer *should be taken jointly by representatives of* employers and employed; and that there should be a standard hygrometer. It is also recommended, among other details, that the size of steam pipes for the wet bulb should remain as at present pending f[illegible] be maintained efficie[illegible] walls should be bett[illegible] of roofs. No doubt [illegible] would greatly, *in many cases, improve the conditions of work.* In a lecture at the Manchester School of Technology given by Professor J. Radcliffe recently, he passed some criticism on the report of the committee, especially as to the raising of the CO_2 standard to 12 volumes per 10,000, which he considered was a step in the wrong direction "as the available quantity of air for each individual was very small, [illegible] nt of moisture present, [illegible] of the air from dust." [illegible] ry to health resulted from uncleanliness, deficient ventilation, and constant changes of temperature directly due to the carelessness, indifference, and ignorance of the work-people. He had had direct experience of this. He favoured the mechanical systems of ventilation over the ordinary provisions for ventilation, heating, and humidifying of large factories and workshops. The difficulties *generally arose from insufficient* capacity of the plant, or from bad management. He thought also that some treatment of the yarn might be devised which would give good results without the presence of excessive moisture. There will always be some points on which opinion may differ, as, for instance, the question of humidity, to which Professor Radcliffe thinks too much attention has been paid, but the great mass of the workers seem to think otherwise. *If the suggestions of the Com*mittee are carried out the comfort and health of the operatives will no doubt be increased, provided that they do their share in maintaining the improved conditions under which they would work.

THE CLEANSING OF CAIRO.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE ORIGIN AND DEVELOPMENT OF THE SCAVENGING DEPARTMENT.—THE WANT OF FUEL.—THE DESTRUCTOR.—ONLY ONE-SEVENTH OF THE REFUSE TREATED.—MOUNTAINS OF FILTH ACCUMULATE UNDER THE CITY WALLS.—FLIES AND DUST FROM FOUL DUSTHEAPS INVADE THE STREETS.

PREVIOUS to the British occupation the care of keeping the streets of Cairo clean was confided to contractors, who certainly devoted some attention to the European quarter, but the natives were left to their own devices. Consequently household refuse was thrown out on the nearest convenient spot. Some house holders employed Zibals. These men represent a characteristic Oriental institution. The ordinary visitor or tourist does not perhaps realise that one of the greatest of Egyptian difficulties is the want of fuel. Yet it suffices to travel on an Egyptian railway to observe that there are hardly any trees and no forests. There are picturesque clusters of palm trees, but these do not provide timber nor good fuel. Imported coal, on the other hand, costs £2 a ton at the least, and in a country where wages are sometimes as low as 5*d.* a day it is obvious that the mass of the people cannot afford to burn imported coal. Wood also has to be imported for building and industrial purposes, and is far too dear to be used as fuel. Consequently rubbish is the only cheap fuel available. The Zibals are the collectors of rubbish. Householders pay them a small sum to fetch and carry away vegetable and other household refuse which they sell as fuel, especially to the public baths, and in this way perform a service of the greatest social importance in the life of the Egyptian In the big furnaces of the bathing establishments this rubbish can be burnt, otherwise it is difficult to see how Turkish baths could be provided for the people. In no way does Egypt, and especially Cairo, compare more favourably with Europe, and especially with England, than in respect to its public baths. There are 59 hammams or public baths in Cairo, and 49 of them were extensively frequented at the time of my visit. These are not new institutions, like the baths and washhouses in England, but are contemporaneous with the growth of Cairo itself. To the sanitary reformer nothing has been more disheartening than the statistics published from time to time showing how poorly the public baths built in British towns are frequented. It is true that of late years a bathroom is built in most private houses of a certain rental, and frequently even in workmen's cottages; but this is quite a recent innovation and one that is not always appreciated by those for whom it is provided. Indeed, there are frequent stories of the bath in model cottages being covered over to serve as a bedstead above and a coal-box or a rabbit hutch below. In the East, on the contrary, it has been a long-established custom for the great mass of the people, the women and the children as well as the men, to frequent the hammam. This, however, would be impossible if some form of cheap fuel had not been forthcoming, and thus the questions of public baths and of the disposal of household refuse have been linked together. The natural process, therefore, in an oriental town is to burn some of the household refuse in the furnaces of the public baths. Scavenger dogs and, in Cairo, scavenger cats devour another part of it, and the rest is allowed to accumulate on any neighbouring waste ground. But when the population of Cairo largely increased, and so many Europeans came that a European quarter was created, some attempt was made by the employment of contractors to establish systematic scavenging.

Shortly after the British occupation, and following particularly on a severe outbreak of cholera, the matter of refuse disposal had to be considered seriously. The first person to be engaged on this work was Mr. A H. Hooker, F.I.C., F.C S., a pupil of the late Charles Heaton, lecturer on chemistry at Charing Cross Hospital. Here I may be allowed a personal word. To Charles Heaton I also am deeply indebted not only for my first lessons in hygiene, but for introducing me to this journal, where I helped him in his work as Special Sanitary Commissioner till ultimately he retired and I succeeded to his post. In such circumstances it will readily be understood the pleasure it afforded me not merely to find Mr. Hooker among the first to welcome my arrival at Cairo, but to learn that he had honoured the name of our common master by rendering eminent service to the cause of hygiene in Egypt. In 1883 Mr. Hooker had just terminated his work as secretary to the Cholera Commission under Sir Guyer Hunter and had served through the whole of the epidemic. He then addressed a lengthy report on the sanitation of Cairo and other towns to the Egyptian Government. In consequence Mr. Hooker, on the advice of Sir Evelyn Baring (now Lord Cromer) was appointed sanitary inspector for Lower Egypt. Late in 1884 Mr. Hooker was charged with the executive sanitation of Cairo and Alexandria, under the title of chief inspector of the whole sanitary services. His first act was to dismiss the contractors who were highly paid for doing very little. At the same time he submitted an estimate for the carrying on of a sanitary service which was approved by the Government. Having thus secured the means, he purchased carts, horses, mules, brooms, and many other necessary utensils, making these purchases personally. Then he organised on a military basis a small army of scavengers, appointing old soldiers as foremen or chiefs of gangs. The next step was to establish municipal workshops for the construction and repair of all the utensils, and municipal stables for the horses and mules. Machine brushes were introduced and all the watering service was taken over. Formerly there had been great carelessness in the measuring of the water purchased by the authorities from a private company to water the public streets. Mr. Hooker introduced a meter which automatically and accurately measured the amount of water used and thus realised a considerable economy. At Alexandria he established a similar service; indeed, at all the larger towns he imitated more or less fully what had been done at Cairo. The principle was to divide large towns into separate districts with their chiefs or controllers and a separate staff. To better maintain discipline and order the posts in the departments were reserved for the army, old soldiers being given the preference and having a right to enter the Municipal Service Corps. In 1890 the sanitary authorities took over surface sanitation—that is, scavenging—and the public works department became responsible for road-making. Shortly after this Mr. Hooker retired from the service, with the satisfaction of having accomplished a task of great public utility and beneficence.

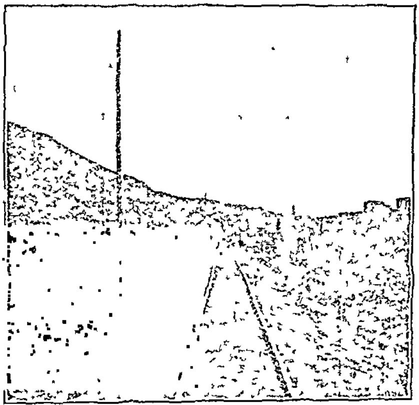
Mr. Felix E Powell is now responsible for the scavenging of Cairo. But circumstances have changed and are changing in the city and he very frankly recognises that the work in existing circumstances cannot be satisfactorily accomplished. When Mr. Hooker left the annual expenses of the service amounted to £16,000 per annum, now they amount to £47,372, and to do the work properly yet £13,000 more are needed, which is the same as saying that, if the figures may be accepted as a basis, at least a quarter of the necessary work must be left undone for want of means. Nevertheless, it is an inspiriting sight to visit the scavenging depot at Boulac. Here a fine international assembly of municipal machinery and appliances can be seen. There are English and German road-sweeping machines and thousands upon thousands of Italian hand birchwood brooms. The dryness of the climate causes the twigs to snap very soon and in the summer a broom will hardly last more than a week. It is quite a business merely to check these brooms, to hand out new ones, and to secure the old ones for the furnace at the destructor. At Cairo when asphalt or macadam is laid down in a street a small tax may be imposed in exchange and this covers the cost of keeping the street clean. But for the other streets which have only the bare earth no such revenue can be raised. Nor for the moment will any effort be made to pave these streets, for it has been decided to postpone all such expenditure till after the sewers are laid Therefore, there is no credit open—i e., no funds available—for sweeping unpaved streets, but under the Public Health Department there is a credit for prophylactic work, and the clearing away of filth from a street may be classified as work done for the prevention of disease What such a task implies does not seem to have been realised in Cairo.

There has been a good deal of discussion about the water-supply of Cairo among the dwellers, and a little about the drainage of the city, but what was familiarly known in England as the dustbin problem has not been agitated in Cairo. Throughout France *la question des gadoues* holds a prominent place in sanitary congresses and discussions, but in Cairo I could hardly find anyone who had taken it into consideration. As a consequence of such negligence and ignorance, Cairo is now face to face with dangers and difficulties arising from the accumulation of dustbin contents surpassing anything that I have ever seen in other towns. Though the scavenging is incomplete, because, as already ex- [illegible] maintain a sufficient staff would not be so great if disposed of in a proper manner. As a matter of fact, there is only one destructor, which only deals with a very small part of the refuse. It is inconveniently situated near the ruins of the ancient aqueduct on the way to Old Cairo, and the refuse with which it deals is difficult of destruction. In Europe there is always mixed with the household refuse a certain amount of coal or wood cinders, and this makes it possible to burn the rubbish, and the dealing with the contents of our dustbins constitutes a large industry. At one time all the rubbish was carefully sorted, but this sorting is such dirty work that many sanitary authorities have preferred sacrificing what little monetary advantage it may afford and have resorted to the much cleaner process of cremation after rough *sifting. The resulting clinkers are absolutely sterilised* by the process of fusion in the furnace and can therefore be used for road making, or in some cases are ground to powder, mixed with cement, and artificially converted into flagstones. This, however, cannot be done so readily at Cairo because there are no coal or wood cinders in the domestic refuse, and no less than 40 per cent. of the material collected is absolutely unburnable, and it contains much dust brought into the town on the feet of the camels, donkeys, and other animals that daily come to Cairo from country districts. This refuse is dragged with prongs over a grill so as to shake the unburnable matter through the iron bars into a receptacle underneath. The 40 per cent. of unburnable material was at one time sold as manure, but it contained too much salt and ammonia to be valuable. It has now been improved by mixing it with blood from the slaughter-house. The remaining 60 per cent. which can be burnt is burnt, but it consists largely of "soft-core"—that is to say, of organic matter, such as cabbage stumps, potato peelings, orange peel, and other vegetable refuse. There is not much broken glass with it and practically no coal or anything much that will fuse, and only a very poor and useless sort of clinker is produced. The refuse from the markets and from the hospitals goes directly to the destructor without being sifted. The dust-sifters are paid £1 10*s.* per month as wages, which is a higher wage than what can be earned by working on the land or as a street-sweeper in the city In England it has been found that the dangerous character of this work on account of the dirt and dust is in part compensated by the fact that it is done in the open air. In Egypt not only do these dust sorters work out of doors but they sleep in the open air, except during the two or three months of winter when it is not so warm. For this purpose they do not, however, have to hire rooms or pay rent. They collect from the refuse which they sort old oil tins which they flatten out, and with bits of old sacking and fragments of carpets make up the walls and roofs of little huts which have for their main support old poles, planks, and any other waste material that they may chance to find In these extraordinary and wretched hovels these men will sleep when the weather is exceptionally cold.

Though the clinkers produced by the destructor are not good, a powder is obtained which when mixed with water and a little lime makes a cheap inferior mortar which is a staple article used in building small native houses and known in the trade as *kosromel*. Then there is a cremation chamber which renders great service for the destruction of condemned meat and carcasses When regulations to prevent the spread of rabies first came into force the bodies of about 500 dogs were cremated here in the course of one month. Now there are not more than about 150 destroyed per month. Part of the heat of the destructor is used to generate steam which supplies the needs of the neighbouring public abattoir. Some of it is used to drive a fan which produces a blast on the furnace. Thus it may be said that in spite of the special difficulties just described satisfactory work is done by the destructors and as far as it goes we have here a solution of the problem. Unfortunately it does not go far enough

Though the scavenging work is not done thoroughly and a good deal of dirt and refuse still remains lying about, especially in some of the poorer *quarters, in small streets and* blind alleys, nevertheless about 600 cart loads are removed every day. It is estimated that these loads weigh, on an average, a third of a ton, and that 210 tons weight is carted away from Cairo every day in about 600 cart loads; but of this quantity the destructor can only deal with 30 tons per day. Only one seventh of the total is satisfactorily treated. This is an appalling fact. It should be known to every citizen of Cairo and become a subject of daily concern, and of agitation until more effective measures are adopted. A portion of this refuse is sold to the public baths and this realises a revenue of £600 a year while causing a terrible nuisance which I will describe later. The last figures I saw showed that the baths were taking 189 cartloads of refuse per day. There thus remains a growing daily accumulation of more than 300 cartloads, more than 300 cubic metres, of dirty, dangerous matter. Yet it is not treated in any way. It is not cremated, it is not even sorted or removed to any distance. Incredible as it may seem, this refuse is simply dumped down in the immediate neighbourhood of Cairo. Thus perfectly flat suburbs have been in the course *of time converted into hilly districts*, and the northern side of Cairo is now surrounded and hedged in by mountains of filth. The picturesque citadel of Cairo was pointed out to me and I was told there were cannon there that could reduce the city to ashes in a very short time. In the meanwhile, it is the city that has brought its daily output of ashes to the citadel, and the mountains thus constructed are now nearly as high as that on which the historic fortress stands. If the town were to be bombarded by the fortress some warning would be given and the inhabitants would have a chance of *escaping. The citizens of* Cairo have, however, neither respite nor chance of escape from another sort of bombardment to which they are daily exposed Here on these hills heavy artillery is constantly discharged, and it is as if more than 300 shells exploded every day, for when each of the 300 carts is tilted up a cloud arises consisting not of gunpowder smoke but of deadly dust This is taken up by the wind and carried to the streets and open windows of Cairo As this incredible state of affairs may elicit accusations of exaggeration I put in my camera as a witness. To the north of the citadel and north-east of Cairo there are such *large hills that doubtless, and judging* from a distance, most persons have mistaken them for offshoots of the Mokattam range of mountains As a matter [illegible] dust and rubbish heaps, and these [illegible] ed houses. The largest [illegible] of a railway line that has [illegible] this filth. (See Fig. 1)

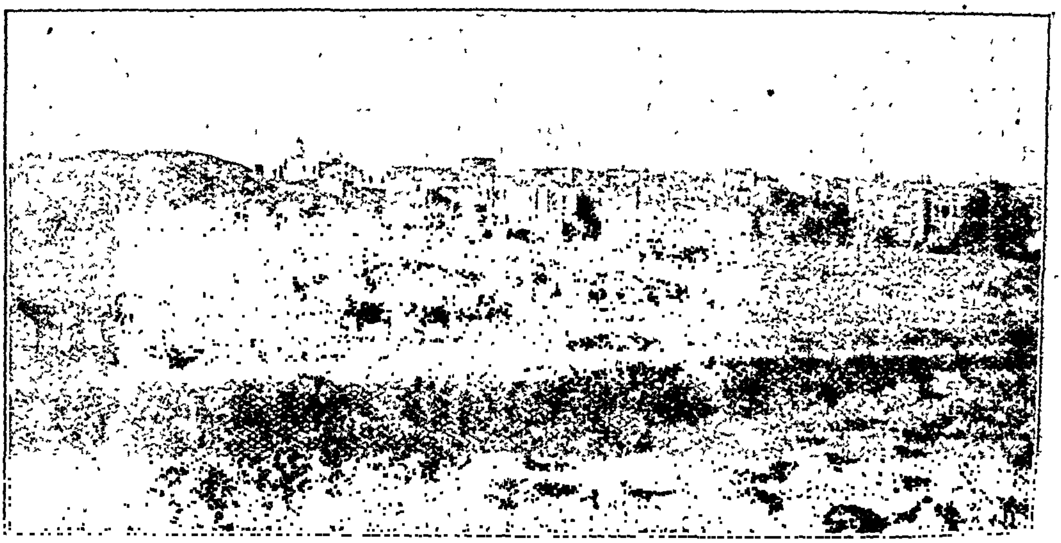
FIG. 1.



Railway passing through dumping ground upon and alongside of large mountains of rubbish.

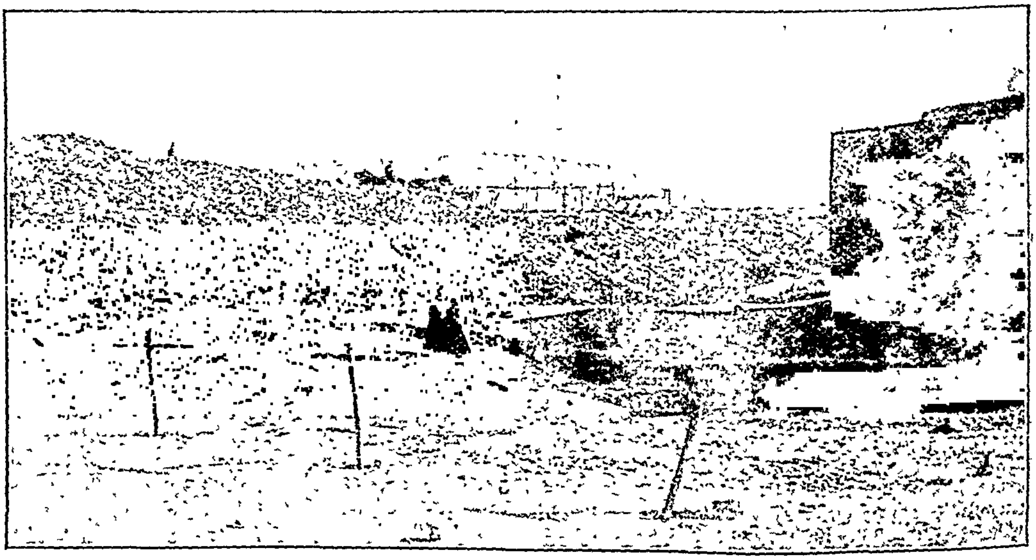
Here it assumes the proportions of a veritable mountain. Another of my photographs shows some of the scavengers' carts commencing the ascent of these hills. (See Fig. 2.) The road is made of rubbish, and on both sides the household refuse accumulates. Formerly all this ground was quite flat. Then I have taken a photograph of the extreme limit, where empty tins, broken pots, and other rubbish comes tumbling down into a rope-walker's yard and almost against the very walls of a small factory. (See Fig. 3.) Here, making string and ropes, a number of young children are at work, and they breathe the dust fresh from these mountains of town refuse. The carriage in which I rode will be seen above the lower dust hills, the higher mountains of rubbish being seen in the distance. I shall never forget the appearance of the coachman's back. It was not possible to tell the colour of the cloth of which his coat was made. As he had remained still for some time hundreds, nay thousands, of flies had settled on the smooth expanse of broadcloth that covered the parts of his back which he could not reach to beat them off. Flies form another of the dangers created by these mountains of refuse. Not only is the dust blown from them into the town, but it forms the breeding grounds of millions of flies which convey to the town the germs they collect on the dust-heaps.

FIG. 2.



The scavenger carts bringing refuse to mountains of rubbish accumulated close to the north-east side of Cairo.

FIG. 3.



Limit of the dumping ground, where the rubbish falls into a rope-walker's yard where children are employed.

The readiness with which flies breed here is in itself a proof of the foul nature of the rubbish. But we have a further proof in the fact that it ferments and becomes so hot that spontaneous combustion sets in. These mountains of dirt are actually on fire. It is only necessary to stand still for a moment to feel the heat of the fire even through thick-soled boots, while if a walking-stick is pushed down some 10 or 12 inches the hole makes a small chimney from which smoke issues when the stick is withdrawn. Considering this phenomenon, it will be said that by spontaneous combustion all the vast accumulation of rubbish is automatically purifying itself. The best of all sterilisers—namely, fire—should render it perfectly clean and safe. Though I am not aware that any scientific experiments have been made to prove that this is so, still I am quite ready to believe that deep down in these mountains, where everything that could burn has been consumed, the heat was sufficient to sterilise what remains; but this is the work of years and does not apply to the surface. It is the newly emptied cartloads of freshly collected refuse that constitute the principal danger. Here will be found not only all the animal and vegetable matter constituting kitchen refuse, &c., but there is also some fæcal matter and specifically dangerous things, such as pus-stained rags, and f [illegible] 'ere worn by t [illegible] tes pathogenic g [illegible] ets and houses o [illegible] some private enterprise comes here with carts and workmen and pays a small sum to be allowed to cart away a little of this rubbish. This seems to indicate that it is of value as manure. It would be well if these people, instead of taking a few loads, could cart it all away, for who ever heard of surrounding—of hedging in—a town with mountains of manure!

(To be continued.)

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

Tuberculosis and the Milk-supply.

THE Newcastle corporation sanitary committee recently received a deputation from the Northumberland and Durham Dairy Farmers' Association respecting tuberculosis in dairy c[illegible] the [illegible] the [illegible] ion, [illegible] rcle [illegible] er it [illegible] the suggestion [illegible] proceeding[illegible] settled by [illegible] committee [illegible] tion—to t[illegible] mixed yiel[illegible] ground of [illegible] inoculations, or, including the time for the first tests, three months in all, during the later half of which the consumers of that particular supply would be getting milk known to be tuberculous.

Payment of Vaccination Officers.

The Newcastle board of guardians at one of its recent meetings had under consideration the question of payment of vaccination officers. It appears that a vacancy has arisen in the western district, and the finance committee of the board had recommended that the new officer should be paid a fee of 2*s.* 6*d.* per case instead of 4*s.* 6*d.* as hitherto. The committee stated that the average payment for vaccination over the last five years was £422 per annum for the particular district; that the minimum fee of 2*s.* 6*d.* had been fixed by the Local Government Board; that the western district had a high birth-rate; and suggested that, whilst it did not wish to interfere with the existing scale of payment in other districts, this appointment was a new one, and if paid on the lower scale a saving of £120 per annum would be made for the ratepayers. The discussion which followed on a motion to adopt the recommendation was free and apparently stormy, the advocates for the lower fee alleging that a good man could be obtained, that "medical men would tumble over each other to get the post," that when letting tenders they took the lowest, that the neighbouring town of Gateshead had adopted the lower scale, and finally, that the appointment was merely an adjunct to private practice. Those who wished the fee to remain at 4*s.* 6*d.* were emphatic in considering that the proposed change would [illegible]" that other towns, Sunder[illegible] 4*s.* 6*d.* and 1*s.* registration [illegible] Middlesbrough paid 5*s.* and 1*s.*; Alnwick and Felton, 7*s.*; the Castle Ward of Northumberland, 7*s.* 6*d.*; and in London fees were paid up to 10*s*; that the fees of the new officer could hardly be changed without also lowering those of the officers of the other districts. The resolution to adopt the half-crown rate was defeated by 22 votes to 18, one member not voting. An amendment that 3*s.* 6*d.*, plus the other amounts, should be paid was also lost by 20 to 15. The rate therefore is to remain at 4*s.* 6*d.* per case.

Royal Victoria Infirmary.

A quarterly Court of Governors of the institution was held on May 27th at the infirmary, Sir Riley Lord presiding. Sir Thomas Oliver was reappointed an honorary physician and Sir Riley Lord was made a president of the infirmary. The latter, in his remarks to the meeting, alluded to his hope that the institution might at no very distant date be in the possession of a convalescent home, to which patients might be sent to continue their treatment after their short stay in the building, which shortness was necessitated by the pressure on the beds. The financial statement was presented to the court, and showed that the average number of patients in the infirmary for the past four months had been 654, as against 619 in the corresponding month, of last year. The total income for the same period was £10,815, against £8969 last year, while the total expenditure for the period had been £10,952, as compared with £10,276 last year. The expenditure therefore exceeded the income by £137, while last year for the same months the deficit was £1307. The contributions made by the workmen of the district continue to increase.

June 8th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

[illegible]

[illegible] Ro[illegible] ment showing that the increase in the price of alcohol proposed in the Budget would affect the infirmary to the extent of £112 per annum. This increase was only to a small extent due to the use of alcohol as a beverage, but applied to preparations in which alcohol was used. For anæsthetics alone it meant an increase of £50. The result of the tax meant practically an increase of 10 per cent. on drug expenditure. A letter was read from Dundee Royal Infirmary asking support to get some concession in regard to the making of tinctures and other pharmaceutical preparations. The subject was remitted to the medical committee for report. A proposal by Dr. A. Veitch of Gilmore-place to provide motor-car rides for patients on Wednesdays was accepted with thanks. Dr. Veitch made similar arrangements last year, which were successful and highly appreciated. Dr. Veitch has interested a number of private motor-car owners in his scheme, who have readily placed their cars at his disposal for the purpose. He hopes to make the scheme big enough to include the nursing staff if possible.

Complimentary Dinner to Dr. Stuart Macdonald, Edinburgh.

Dr. Stuart Macdonald, who was recently appointed to the lectureship on pathology in the Newcastle School of Medicine, was entertained, on the evening of June 3rd, by a number of his friends and colleagues in Edinburgh at a dinner in the Caledonian Station Hotel. Dr. Alexander Bruce occupied the chair. Dr. Macdonald has been for a number of years an extra-mural lecturer and teacher of pathology in the Edinburgh school. He was for a time an assistant pathologist at the Royal Infirmary, and up to the present was pathologist to the Royal Hospital for Sick Children. He is a graduate of Edinburgh, and has made valuable contributions to the literature of epidemic cerebro-spinal meningitis and of delayed chloroform narcosis. He leaves Edinburgh with the hearty good wishes of his Edinburgh colleagues for a prosperous and distinguished career in connexion with the North of England School of Medicine.

The Edinburgh Royal Maternity Hospital.

The annual meeting of the supporters of this charity was held on June 3rd, Principal Sir William Turner, K.C.B., presiding. Dr. J. W. Ballantyne, submitted the report. The number of patients treated in the hospital was 549; at their own homes 663; at the Leith branch 437. There had been during the year 13 maternal deaths among the indoor cases, none among the outdoor. 46 nurses were trained and training had been given to 47 students. The financial report showed that the income had been £1902 and the expenditure £2316. During the year the Early Notification of Births Act had come into force and the medical staff had aided the health officer of the city by supplying him with information which enabled the health visitor to get in touch with patients who had been in hospital. The directors were satisfied that benefit would accrue to mothers and infants by this arrangement.

Tuberculous Patients at Edinburgh City Hospital.

It is gratifying to be able to record that the public health committee, which is ably presided over by Dr. G. M. Cullen, has agreed to recommend to the town council that the number of beds at the City Hospital for cases of pulmonary phthisis be increased from 50 to 62, and that six pavilions for the open-air treatment should be provided. Any increased accommodation for these cases will be welcomed by those who know the needs of a city like Edinburgh.

Conference on Medical Supervision of School Children in Lanarkshire.

The Lanarkshire authorities are making an effort to organise the medical supervision of school children in the county on a satisfactory and businesslike basis. As a first step in the process the secondary education committee of the county has asked the county council that the scheme be given the assistance of the county medical officer. The idea is to have at the head a man who will be in no competition with local practitioners. It is suggested that he should supervise the beginning of the scheme, and afterwards, when it is organised, his work will resolve itself into mere direction. Details of the scheme have been given in a circular forwarded to the school boards of the county, and a conference of the authorities interested in the matter was held last week. At this conference 35 out of the 48 school boards of the county were represented, and it was decided that the scheme would be proceeded with if the committee received a certain number of favourable replies from the various boards after the proceedings at the conference had been reported to them. It is estimated that the number of children who will have to be medically examined amounts to three-eighths of the total school population. That means that 38,193 children in the county will fall to be examined, and it is considered that a staff of from five to seven medical inspectors will be required. Assuming the coöperation of all the school boards in the county the cost will lie between £2500 and £3000 per annum. A full staff may not be necessary at first, but whatever the cost may be the expense will fall upon each board in a proportion based upon the average number of scholars on the register. The county will be divided in such a way that each part will receive an efficient service.

Proposed Paisley Lunacy District.

The parish council of Paisley has decided to approach the General Board of Lunacy to have Paisley parish formed into a lunacy district. Formerly in its asylum at Riccartsbar it has been in the habit of receiving boarders from the various parishes round Paisley, but these parishes have now combined and built an asylum at Dykebar. As boarders have been a source of considerable revenue in the past, if the parish were converted into a lunacy district the council would be in a position to make up to a certain extent the deficiency.

June 8th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Tuberculosis in Dublin: Suggestions of the Public Health Committee.

THE public health committee of the Dublin corporation has just issued its report (June 5th) on the subject of tuberculosis in Dublin. It refers to the fact, already brought to light on several previous occasions, that "very often consumptives sleep in the same room, and sometimes in the same bed, with healthy members of their families," and indicates the obvious truism that this "close contact of persons suffering from pulmonary tuberculosis is no insignificant factor in spreading this formidable disease." The medical superintendent officer of health has suggested the providing of a separate room for the consumptive; and that such rooms should be constituted "temporary places for the reception of the sick," under the provisions of Section 155 of the Public Health (Ireland) Act, 1878. The report states that in 1908 956 persons died from pulmonary consumption in the City of Dublin. The great majority of the deaths occurred among the poorer classes, especially in the families occupying single-room dwellings. The provision made for consumptives in our metropolitan hospitals is small in comparison with the number of persons affected with pulmonary tuberculosis. Then the joint sanatorium which is shortly to be erected will accommodate some 50 patients only, at a cost of about £5000 per annum. The report expresses the belief that "on an average a room for the reception of a consumptive person will not cost more than 2*s.* 6*d.* per week, or £6 10*s.* a year. The equipment as bedroom would not exceed £3 10*s.*" It proceeds to state that if the committee were "empowered to expend £200 a year in hiring, equipping, and maintaining rooms 20 consumptives could be provided for," adding the suggestion that this sum should be placed at its disposal "as a tentative effort to lessen, in the direction indicated, the spread of tuberculosis." The persons provided for would, in most cases, be those employed in some industrial occupation; occasionally a consumptive after return from hospital or sanatorium. The suggestion is surely a feasible one, and in the present state of affairs it is worthy of a fair trial.

Health of Belfast.

At a meeting of the city corporation of Belfast held on June 1st it was reported that between April 18th and May 15th, 1909, the death-rate from all causes in Belfast was 20·0, 7·8 from chest affections, and 0·8 from zymotics per 1000. There is a marked diminution in fever cases (especially typhoid), but the mortality from chest affections is in excess of the normal rate. In reference to the late Health Commission the finance committee reported that it had informed the Local Government Board that, acting on counsel's opinion, it felt it was not liable for a sum of £600, but the Earl of Shaftesbury, who is one of the aldermen, spoke very decidedly against entering into litigation with the Local Government Board. Neither the Local Government Board nor the Treasury forced the Commission on them, he said, but a number of their own citizens, and they had already agreed to pay the principal portion of the expenses, and the present sum in dispute was only £600. Lord Shaftesbury said that the idea was that the corporation was not to pay for those members of the Health Commission who came from outside Ireland (Colonel Harding, the chairman, Dr. A. K. Chalmers of Glasgow, and Dr. L. W. D. Mair of London), but he said it was of great advantage to the city to have these men. Everyone would surely admit that their expert knowledge was a real asset in such an inquiry, and the result was that they obtained as good an opinion regarding the health of the city as could possibly be had. They must agree that the result of the inquiry was of great benefit to the city. Was it, therefore, dignified—was it a very high attitude to take up—to say, "We paid £800, but we won't pay the other £600"? It was not edifying for an important city like theirs to assume this attitude, which implied, "We admit that the Commission was of benefit and that the report was of use, but we won't pay this £600." Alderman Sir James Henderson, D.L. (an ex-mayor), in supporting Lord Shaftesbury, said the three gentlemen of the Commission, namely, Colonel Harding, Dr. Chalmers, and Dr. Mair—in respect of whose expenses this sum of £600 was in dispute, were of the greatest possible assistance as members of the Commission; in fact, he did not think they could have done without them. Ultimately, the chairman of the finance committee was obliged to take the matter back, and a special meeting of the corporation is to be called to decide the question in order that there shall be no more delay.

Royal Victoria Hospital, Belfast.

Saturday, May 29th, was "Hospital Saturday," and £720 have been paid in already, which is about the same sum as was paid at the corresponding date of last year.

The Kelvin Statue.

The acrimonious dispute regarding the site for the statue of Lord Kelvin was settled on June 2nd, when at a public meeting of subscribers held in the Belfast City Hall (the Lord Mayor presiding), the Chancellor of the Belfast University (the Earl of Shaftesbury) withdrew the claim made by the University, and it was unanimously decided to place the memorial in the grounds of the City Hall.

The Dufferin Children's Hospital.

The new institution now known as the "Dufferin Children's Hospital," in connexion with the Belfast workhouse, was appropriately opened on June 3rd by Lady Hermione Blackwood, youngest daughter of the late Marquis of Dufferin and Ava. The building, which stands on a beautifully open and healthful position isolated from the other buildings on the workhouse premises, is three storeys in height, built of red brick, with balconies in front, and has eight wards to accommodate altogether 200 children. Children suffering from complaints making it necessary can be isolated, not alone in the wards but in the lavatory annexes. The windows are suitably guarded and there are special exits in case of fire or emergency, and a special system of heating and electric lighting has been installed. Altogether the whole surroundings and the arrangements provided in connexion with the hospital have been so carefully thought out and the details so completely executed as to reflect the highest credit on the guardians, especially the lady members. The chairman of the board of guardians (Mr. J. S. Bryars), who presided, having welcomed Lady Hermione Blackw [illegible] which that lady formally opened [illegible] on the importance of looking [illegible] moral improvement of children. Sir John Byers, in moving a vote of thanks to Lady Hermione Blackwood, joined with her in complimenting the members of the Belfast board of guardians on their splendid medical work. They were the first body of their kind in Ireland to isolate consumptives, and they had erected a sanatorium which was a credit to them and to Belfast and an example to the whole of Ireland. They had also built a maternity hospital, a nurses' home, and, to crown all, on that day those present had an opportunity of seeing opened the largest and best-equipped children's infirmary in Ireland. Miss J. Clark seconded the vote, which was very enthusiastically carried. Subsequently the members of the board and the large number of visitors present were hospitably entertained to afternoon tea by Mr. J. S. and Mrs. Bryars.

June 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Pierre Budin Foundation.

THE inauguration of the building of this foundation took place on May 24th under the presidency of M Emile Loubet, late President of the Republic. The establishment is organised for the reception of infants accompanied by their mothers The infants will be weighed and examined periodically by physicians, who will overlook and give directions for their upbringing. Suckling by the mother will be held up as the most suitable method of feeding, but in case of need this will be supplemented or replaced by distributions of milk. Madame Budin was present, and M. Paul Strauss, senator and president of the institution, spoke first, and gave an account of the objects of the foundation. Afterwards M. Leon Labbé, M. Maygrier, M. Henri de Rothschild, and M Landouzy gave details of the life and work of Professor Budin. Then M Lionel Laroze recited an ode by Jean Richepin to the memory of Budin. M. Loubet wound up the proceedings by appealing to all those present to aid in the salvation of infant life. After the meeting the various buildings were inspected.

The Destruction of Tubercle Bacilli in Bread

At a meeting of the Society of Biology held on May 15th M. Auché gave an account of some experiments which he had made as to the destruction of tubercle bacilli in bread. He mixed some tuberculous sputum with dough, which was then baked. Apparently the heat of the baking destroyed the bacilli, for guinea-pigs which were inoculated with a bouillon made with some of the bread-crumb were not infected with tubercle. M. Auché does not, however, consider that this experiment proves that bread made from tuberculous dough is necessarily safe, for in the case of large loaves the central parts may not always attain the temperature necessary for the destruction of the bacilli, and besides the temperature at which bread is baked varies in different bakeries.

An Old Soldier and Unqualified Practice.

The Association of Medical Men of the Seine has recently prosecuted an old soldier, aged 81 years, a Zouave named Jacob, for illegal practice of medicine. The tenth Chamber of the Tribunal, the court which heard the case, has just given judgment. The judgment states that the Zouave was prosecuted for having habitually taken part in the treatment of sick persons, that clothed in a white robe he showed himself to those who came to consult him, that he fixed his eyes on them and invoked certain spirits whom he called "superiors," that he asked his patients no questions, neither did he prescribe any particular *régime* nor any remedies. The rest of the picturesque description of the Zouave's behaviour notes that he used to pass between the benches upon which his visitors were sitting and touch them lightly with his hand; that he collected such moneys as they were willing to give, but that such offerings were entirely voluntary; and that the séance terminated by his advising them in general terms to drink neither wine nor alcohol, to eat nothing but vegetables, and never to take any drug. As he always did the same thing and took no heed of what was supposed to be the matter with his visitors Jacob could not be held to "treat the sick," and the court found therefore that there was no violation of the law. The syndicate of medical men therefore had to pay the costs.

An Experimental Research on the Method of Action of "Altitude Cures."

At the Hospitals' Medical Society on May 28th M. G. Russ read a paper on a study which he had made to determine the effects on the respiratory and circulatory and metabolic functions during a long stay at a high altitude The subjects of the experiments remained in good health and only suffered from mountain sickness in an insignificant degree. Study of the respiratory exchanges at rest and in the course of the least effort at muscular work showed that the hypothesis of an increased metabolism (*combustion intra-organique*) in high mountain climates cannot be upheld. Even at the considerable altitude of 4350 metres the respiratory exchanges remained the same as at sea level, all other conditions being equal. The increase in pulmonary movement in a person at rest is nearly constant at a high altitude, but in the majority of cases it is inconsiderable, even at the height already mentioned. It is not necessarily accompanied by an increase of amplitude in the inspirations, and very often it only constitutes an extra exertion for the person without any compensatory advantages in aerating the ineffective regions of the lung. On the other hand observations made on healthy people should not be applied too hastily to sick ones, especially to tuberculous patients whose pulmonary movements are always exaggerated. Muscular work done at a height causes a much greater increase in the "respiratory debit" than when it is performed at sea level. Mountain walks form the best method of rendering an atelectatic lung, or one bound by adhesions, permeable to air. In four guinea-pigs kept for 24 days at Chamounix and nine days in the observatory at the top of Mont Blanc, M. Russ and M. Davesne were unable to determine any considerable erythrocythæmia by taking blood from the heart. The appearance of a small number of nucleated red corpuscles in these animals is apparently due to the effect of cold and not to any excitation of the hæmatogenic bone marrow by the deficiency of oxygen in the blood. At high altitudes inhalation of oxygen constitutes the specific treatment for mountain sickness and is an immediate cure for slight attacks. This procedure only influences respiratory movements in a transitory manner, but exercises a very marked action on tachycardia due to altitude. Acclimatisation to the rarefied air of mountain heights is essentially a process of accustoming the nervous centres to deficiency of oxygen in the blood-stream.

Subcutaneous, Intramuscular, and Intravenous Injections of Alkaline Mineral Waters.

M. Fleig communicated a further note on his researches into this subject to the Therapeutical Society on May 26th. He has injected into the veins of men the waters of Vals, Châtel-Guyon, and Saint Nectaire in doses of 200 cubic centimetres without making them isotonic, and up to 400 [illegible] that precaution. These facts prove [illegible] nous injections of alkaline [illegible] purposes on a large scale. M Fleig proposes to make the waters isotonic by using sugar when they contain substances chemically incompatible with salt.

June 7th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

A Simplified Serum Reaction for Syphilis.

Dr. Schürmann, of the Institution for Experimental Therapy in Düsseldorf, writing to the *Deutsche Medizinische Wochenschrift*, says that in the course of attempts to modify Wassermann's reaction for syphilis he has found that the lactic acid is of importance for the reaction, but that it cannot be ascertained by the usual Uffelmann reagent because of the presence of hæmoglobin in the serums. He has now devised another way in which 0·1 cubic centimetre of serum is diluted in 3 cubic centimetres of a solution of chloride of sodium of 0·8 per cent. strength and a drop of perhydrol is added. The serum is then mixed with 0·5 cubic centimetre of a reagent consisting of 0·5 part of phenol, 0·62 part of a 5 per cent. solution of chloride of iron, and 34·5 parts of distilled water. This reagent is of a blue-violet colour, and can only be kept for a very short time even in a stoppered bottle. Normal blood serum brought into contact with the reagent shows only a slight greenish hue on the top, which completely disappears on shaking, the mixture being left absolutely clear and transparent. With syphilitic serum the reaction is quite different, for when it is mixed with the above reagent a brownish-black colour appears, which becomes still more intense on shaking the glass. Syphilitic serum, moreover, froths after being brought into contact with the reagent. The reaction becomes visible in from one to two minutes. Up to the present time 84 samples of serum have been examined by this method, the result being that serums which showed a positive Wassermann reaction turned the reagent dark brown. Serum from scarlet fever patients did not give a positive reaction; the serum of sheep, guinea-pigs, and rabbits also proved negative.

Collective Investigation on Appendicitis.

The Berlin Medical Society some time ago made arrangements for a collective investigation into the cases of appendicitis which happened in 1907, and the results of the investigation were communicated at a recent meeting of the society by Professor Albu and Professor Rotter. Professor Albu said that the number of cases of appendicitis had increased enormously since the "nineties" of last century. Whilst in the year 1897 there were only 1847 cases registered, the number rose to 3081 in the year 1902 and to 6061 in the year 1907. It has been alleged that the increase was apparent rather than real, being in actual fact due to improvements in diagnosis. This argument was true only to a certain extent, but the increase in the number of cases could not be accounted for wholly by improvement in diagnosis, and the explanation undoubtedly was that the disease has become endemic. Of the patients suffering from acute appendicitis 9·3 per cent. were under 10 years of age, 34 per cent. were from 10 to 20 years, 29·6 per cent. were from 20 to 30 years, 17 per cent. were from 30 to 40 years, and 10 per cent. were above 40 years. For chronic appendicitis the acme was in the age period from 20 to 30 years. With regard to the etiology, it was stated that previous infectious diseases were only seldom registered; an accidental injury was acknowledged in only three cases. The cause of the disease was apparently enterogenic. In 55 per cent. of the cases there was *constipation, in 62 per cent. there was pyrexia, and in* 57 per cent. there was increased frequency of the pulse. Suppuration developed in 2 per cent. of the acute cases. Dr. Rotter, referring to the therapeutic results, said that 2705 cases of acute appendicitis had been registered, of which 2365 were treated in hospitals and 340 at home. In the first category there were 214 deaths, or a mortality of 9 per cent.; in the latter category there were six deaths, or a mortality of 1·7 per cent. There were 1344 cases operated on, with 197 deaths, or a mortality of 14·6 per cent. With regard to the stage at which the operations took place 105 were performed on the first day, with one death, or a mortality of 0·9 per cent.; 318 were performed on the second day, with 23 deaths, or a mortality *of 7 per cent.; the entire mortality of the two first days* being therefore 5·6 per cent. On the third day 238 operations were performed, with 23 deaths, or a mortality of 10 per cent.; and after the third day 683 operations were performed, with 150 deaths, or a mortality of 20 per cent. The death-rate following operations after the second day was therefore 18·8 per cent. In cases under ten years of age the death-rate was 17·4 per cent., from 10 to 20 years it was 5·3 per cent., from 20 to 30 years it was 10 per cent., from 30 to 50 years it was 21·7 per cent., and above 50 years it was 80 per cent. Operations *à froid* have been performed for chronic appendicitis in 87 cases, and during an interval in 805 cases, the actual number of deaths being nine, or a mortality of 0·9 per cent. The best results were obtained by early operations.

Congress of Naturalists and Medical Men.

The forthcoming meeting of the German Association of Naturalists and Medical Men will be held at Salzburg in Austria from Sept. 19th to 25th. In addition to the scientific proceedings, the programme of the meetings includes as usual a variety of social entertainments. The ancient and celebrated city of Salzburg, with its splendid alpine surroundings, will certainly attract many visitors from Germany, Austria, and abroad. After the meeting excursions will be made to the well-known health resorts of Reichenhall and Gastein. Medical men desiring to take part may apply for further particulars to the local committee or to Dr. Würtenbergen in Salzburg.

June 7th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Vaccine Complicated with Foot-and-Mouth Disease.

THE Bureau of Animal Industry of the United States Department of Agriculture has published the results of an investigation as to the origin of an outbreak of foot-and-mouth disease among cattle which prevailed during the early part of last winter. It was found after very careful investigation that it had its origin in calves used for the propagation of small-pox vaccine virus which had been contaminated with the virus of foot-and-mouth disease. The contaminated virus was traced to vaccine which had been imported from a foreign country. The disease was finally traced to calves that had been used for the cultivation of vaccine virus by a large Detroit firm. On further inquiry it appeared that this firm had secured a supply of vaccine virus which was imported by a firm in Pennsylvania. From the stockyards of the Detroit firm, where the calves which had developed the disease were kept, the disease spread widely. The cattle which were vaccinated by the virus from both of these firms all developed the foot-and-mouth disease. The laboratories of the Public Health and Marine Hospital Service immediately began an examination of all the supplies of vaccine virus in the country and now report that there is no impure vaccine on the market.

The Proposed National Public Health Department.

The efforts to secure the establishment of a National Public Health Organisation have resulted in the designation by the President of the Surgeon-General of the Public Health and Marine Hospital Service as a special commissioner to prepare a plan by which all of the agencies of the Federal Government which have duties relating to the public health may be consolidated into one department. The department over which the Surgeon-General presides, "The Public Health and Marine Hospital Service," has been doing excellent national sanitary work, and only requires such reorganisation as will enlarge the scope of its jurisdiction, increase its equipment, and give it adequate powers to make it a most efficient department of health. The proposition which meets with most favour is the consolidation of several bureaux, having duties which nearly or remotely relate to the public health, and now scattered among the other departments, into an independent public health organisation. This plan would be most readily effected if the Public Health and Marine Hospital Service were taken as the unit in the consolidation act and the various allied branches of public health service were incorporated in its organisation. *This method of securing an* adequate National Public Health Department meets with general professional approval, and it is anticipated that the Surgeon-General will finally report such a scheme to the President.

Tuberculosis Increasing in Rural Districts.

The New York State Department of Health reports that tuberculosis is increasing in the rural districts and diminishing in the cities of the State. On the basis of the average for five years from 1901 to 1905, the death-rate in the cities of the State fell from 203·5 to 185 per 100,000, while in the country districts there was an increase from 112·7 to 123 per 100,000. This remarkable difference in the death-rate from tuberculosis of the two classes of people is attributed to the stringent sanitary measures adopted and enforced by the health authorities of cities as compared with the rural districts. Somewhat of this change is undoubtedly due also to the campaign of education which has been in progress in the cities by means of lectures and exhibitions.

The Transmission of Germs by the Mails.

The United States Post Office Department has adopted stringent measures in the transportation of pathological specimens to avoid the possibility of the transmission of the germs of disease to those engaged in the service. In the first place, the postal service will handle cultures or specimens only when destined to United States State or municipal laboratories. Specimens intended for medical laboratories other than public institutions must be transmit [illegible] ltures or cultures of [illegible] at ordinary temper [illegible] unmailable; such specimens may be sent in media that remain solid at ordinary temperature. On the outside of every package of diseased tissues admitted to the mails shall be written or printed the words: "Specimen for bacteriologic examination; this package to be treated as letter mail." No package containing diseased tissues shall be delivered to any representative of any said laboratories until a permit shall have first been issued by the Postmaster-General certifying that the said institution has been found to be entitled, in accordance with the requirements of this regulation, to receive such specimens. Minute rules are given in regard to the construction and preparation of packages used for conveying through the mails pathological specimens, in the moist and in the dry state, for bacteriological examination for diagnosis in cases of suspected diphtheria, tuberculosis, and other communicable diseases.

Decline of Attendance on a Homœopathic School.

The University of the State of Minnesota has maintained for 20 years a separate homœopathic department, devoted to teaching all the medical courses of the junior and senior years. Latterly the attendance has gradually declined until but three students made up the class. The regents of the University have recently abolished the homœopathic department, and created two elective chairs in homœopathic materia medica and homœopathic therapeutics. It also provided that students electing such instruction should be granted diplomas specifying that they were in homœopathic medicine.

Honouring the Memory of Dr. Ephraim McDowell.

The American Gynecological Society, at its recent meeting in this city, celebrated the centennial of Dr. Ephraim McDowell's first operation of ovariotomy by a banquet. A memorial address was given by the President of the society, Dr. J. Riddle Goff, and addresses were given on the "Successors of McDowell" in America and in Europe.

May 26th.

Medical News.

UNIVERSITY OF OXFORD: DIPLOMA IN OPHTHALMOLOGY.—The Board of the Faculty of Medicine gives notice that it has approved the following regulations for the diploma in ophthalmology (see Statute approved by Convocation on May 11th, 1909, *Gazette*, p. 614):—

1. The examination shall be conducted partly in writing, partly *viva voce*, and shall be partly practical. The subjects of the examination [illegible]

[illegible]

5. Candidates must have their names on the Medical Register of the United Kingdom, or, if they are graduates in medicine of universities [illegible]

[illegible] observed.

8. Any candidate who has failed to send in his name as above prescribed shall be permitted to do so up to the seventh day before the commencement of the examination on payment of an additional fee of [illegible] the depart- [illegible] the depart- [illegible]

FOREIGN UNIVERSITY INTELLIGENCE.—*Athens:* Dr. N. Kephallinós has been appointed Extraordinary Professor of Children's Diseases.—*Berlin:* Dr. Felix von Luschan, who was for some years a surgeon in the Austrian army in Bosnia, has been appointed Professor of [illegible] *nsbruck:* Dr. [illegible] *of Anatomy.* [illegible] f Physiology, [illegible] Dr. Arnoldo Canta [illegible] of Medicine.—*New* [illegible] Dr. Theodore C. Ja [illegible] edical College, has been appointed Professor of Medicine.—*Rome:* Dr. Canzio Ricci has been recognised as *privat-docent* of Psychiatry, and Dr. Vasco Forli as *privat-docent* of Neurology and Psychiatry.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The annual meeting of the Fellows was held on June 5th, Mr. J. Lentaigne, the President, being in the chair. A favourable report was submitted. During the year 19 candidates having passed the examination were admitted Fellows, 48 obtained the Licence, 27 the Diploma in Public Health, 16 the Licence in Dental Surgery, and 70 passed the entrance examination. The obituary list showed that eight Fellows [illegible] There are at present [illegible], 303 Diplomates in [illegible] Dental Surgery. At a meeting of the Fellows held on June 7th the following were elected for the ensuing year:—President: Mr. John Lentaigne. Vice-President: Mr. Robert H. Woods. Secretary of the College: Sir Charles A. Cameron, C.B. Council: Sir Henry R. Swanzy, Mr. William Stoker, Sir Charles Alexander Cameron, C.B., Mr. John B. Story, Sir Charles B. Ball, Sir Thomas Myles, Sir Arthur Chance, Mr. Richard D. Purefoy, Sir Lambert H. Ormsby, Mr. Henry G. Sherlock, Mr. R. Bolton M'Causland, Mr. R. Lane-Joynt, Mr. William Taylor, Mr. Edward H. Taylor, Mr. G. Jameson Johnston, Mr. R. Charles B. Maunsell, Mr. William Ireland Wheeler, Mr. D. Edgar Flinn, and Mr. Thomas E. Gordon.

DONATIONS AND BEQUESTS.—Under the will of the late Mr. Charles Morrison of Basildon the London Hospital will receive £10,000.—The late Mrs. Annie J. Holborn [illegible] £5000 to St. Bartholomew's [illegible] Dispensary and Children's [illegible] el" cot, £500 to the Home [illegible] and £200 to the Medical [illegible] Women's Settlement at Canning Town.

West London Medico-Chirurgical Society.—The annual conversazione and Cavendish lecture will be held at Kensington town hall on Friday, June 25th, at 8 o'clock. Lecturer: Sir Victor Horsley. Subject: The Cerebellum.

Literary Intelligence.—A new edition of Dr. F. W. Burton-Fanning's "Open-air Treatment of Pulmonary Tuberculosis" (Modern Methods of Treatment Series) is announced by Cassell and Co., Limited. In this edition the author deals with the researches of Sir A. E. Wright and his collaborators as well as with the new methods of early diagnosis, including Calmette's ophthalmo-reaction.

Deaths of Eminent Foreign Medical Men.—The deaths of the following eminent foreign medical men are announced:—Dr. P. Katchkoffski, *privat-docent* of Surgery in the University of Kieff.—Dr. Bourneville, physician to the Bicêtre.—Dr. Ludwig Hoffer von Sulmthal, extraordinary professor of medicine in the University of Gratz.—Dr. A. Pinner, extraordinary professor of chemistry in the University of Berlin, at the age of 67 years.

St. Paul's Eye Hospital, Liverpool: Ophthalmia Neonatorum.—At the annual meeting of the supporters of St. Paul's Eye Hospital references were made to the new departure made in the direction of special measures for the treatment of ophthalmia neonatorum and the prevention of subsequent blindness. The scheme had been warmly commended in the memorandum appended to the report of the committee of the British Medical Association, and had there been described as an almost ideal method which might well be imitated in other large cities. It was also stated that the Local Government Board had sent a request for particulars, and evidence had been given before the Parliamentary committee appointed to consider the working of the Midwives Act. The cases of ophthalmia neonatorum treated in the hospital during the first year were 75, and during the first four months of 1909 53. The ward now contains four beds for mothers and four cots. The accommodation having proved insufficient the committee appealed for funds to rebuild the hospital on a site opposite the David Lewis Northern Hospital. A special feature of the new hospital is to be the extra accommodation for children with a view to the prevention of blindness. There will be an ophthalmic ward of ten beds and ten cots, and two wards (including isolation rooms) of ten beds each for boys and girls respectively. It is proposed that this department shall be designated the "George Edward Walker Memorial Children's Department," in memory of the late senior surgeon. The cost of reconstruction will be about £13,000, of which sum £6000 and the value of the land were already promised or given. It was agreed to call the institution in the future "St. Paul's Eye Hospital," and to cease to treat diseases of the ear.

The Society for Training Teachers of the Deaf and for the Diffusion of the Oral System.—The annual general meeting of this society, which advocates the use of the German or "pure oral" system of speech, was held, by the kind permission of Mrs. and Dr. H. E. Symes-Thompson, at 33, Cavendish-square, W., on May 26th. Sir Melvill Beachcroft, chairman of the London County Council, presided, and in the course of a very interesting address said that the society had been doing its best for 30 years to train and send out qualified teachers of the deaf on the pure oral system. 25 years ago the Royal Commission on the Deaf had recommended that the training colleges for teachers of the deaf should receive at least an equal grant to that given to the ordinary training colleges, but no grant had been given (except in the case of the "third year student"), and they were to a very large extent dependent on voluntary aid. It was remarkable, he said, that the State should be backward in assuming the fullest responsibility in regard to the deaf and the blind; and though deafness is perhaps a greater misfortune than blindness, as it isolates the sufferer more completely from society, more has been done, and is being done, for the blind in this country than for the deaf. He hoped that as a result of the meeting increased interest would be shown in the efforts of this institution to provide the means for teaching the dumb to speak and the deaf to read. Mr. P. Macleod Yearsley, medical inspector of the London County Council deaf schools, and honorary lecturer on anatomy and physiology at the society's training college, urged the necessity of deaf children remaining longer at school. Mrs. Arthur Kinsey, late lady-superintendent of the training college and school, described how deaf children were taught to speak. Miss Mary Johnston, lecturer on the training of the speaking voice, Dr. G. E. Shuttleworth, and Mr. B. St. John Ackers, founder of the society, also spoke, and the usual votes of thanks brought the meeting to a close. The college and school at Eaton Rise, Ealing, are open to visitors on Tuesdays during term.

Hygiene in Elementary Schools.—The following motions were unanimously carried at a meeting of the Council of the Metropolitan Counties Branch of the British Medical Association on May 27th:—

1. That the Council of the Metropolitan Counties Branch of the British Medical Association, represent[illegible] 2700 [illegible] of the medical profession resident in, [illegible] London, would respectfully urge on [illegible]: also on all boards of managers of elementary schools in London, that, in view of the questions of physical welfare which will be undertaken by the school care committees and the local associations of care committees about to be formed, it is desirable to include in the membership of each of those committees one or more registered medical practitioners.

2. That a copy of the [illegible] divisional correspondents of the London County Council; (4) the honorary correspondents of non-provided Church schools; (5) the clerks of all borough councils in London, with an appropriate covering letter in each case; also to (6) The Lancet and *British Medical Journal* and any other suitable medical or nursing journal.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The End of the Whitsuntide Holidays.

Many Members of Parliament prolonged their holiday for a few days after Thursday, June 3rd, when the House of Commons resumed its sittings. In fact, the attendance on Thursday was one of the smallest seen for many a day. However, the sitting was not wasted. The Government was able to get one of the allotted days of supply, and in the crowded condition of the Ministerial programme every day is precious. The expectation is prevalent that the session will extend into September, if not into October. The Finance Bill will take precedence over other measures, and Members who are interested in the Housing and Town Planning Bill and Mr. Burns's Milk Bill are beginning to regret that more progress with them was not made in the early part of the session. It is too soon to write confidently of their ultimate prospects of becoming law this session. Opposition to Bills, unless they excite widespread controversy, is apt to become languid in July and August. Thus it is remarkable how many Bills a Government will pass through their remaining stages in a very few weeks towards the end of a session, when Members are anxious to be released from attendance to their Parliamentary duties.

Dr. Newsholme's Annual Report.

The publication of the annual report of the medical officer of the Local Government Board is usually delayed a considerable time. Dr Arthur Newsholme's report for the year 1907-08 is only now issued as a Parliamentary paper. It [illegible] tive business of the medic[illegible] several reports dealing with important problems of public health from the pens of other medical officers. Dr. Newsholme himself indicates the work which the medical department of the Local Government Board has done. He states that, as in past years, it has sought to extend its usefulness by obtaining and disseminating knowledge. It has held conferences with local authorities and their officers with reference to such matters as the prevalence of disease, hospital construction, local by-laws, and the appointment of officers. Advice and assistance have been directly rendered to local authorities by the visits of medical inspectors. Formal inquiries have been held by these officers into such matters as the combination of districts for hospital and other administrative purposes, loans for hospital sites and buildings, local by-laws, and schemes for water-supply and sewage disposal. Other sections of Dr. Newsholme's own report deal with vaccination, plague, cholera, and auxiliary scientific investigations.

Industrial Poisoning.

Dr. Thomas M. Legge, H.M. medical inspector of factories, has written a report which deals largely with the cases of industrial poisoning occurring in 1908. It is included in the Blue-book containing the annual report of the Chief Inspector of Factories and Workshops for that year. Dr. Legge includes in his report a table setting forth in a succinct form the statistics on the cases of industrial poisoning From it it appears that 646 cases of lead poisoning were notified in 1908, and 32 had a fatal termination. Only one case of phosphorus poisoning is mentioned, and ten persons were affected by mercurial poisoning. There were 23 cases of arsenic poisoning, one of which resulted in death. 47 cases of anthrax were reported, and seven of them were fatal.

Milk and Dairies (Scotland) Bill.

LORD PENTLAND'S *Milk and Dairies (Scotland) Bill*, which is now published, must, like the Milk Bill of Mr. BURNS for England, be read in conjunction with the recently issued Tuberculosis Order of the Board of Agriculture. That Order applies to all parts of the United Kingdom except Ireland. Lord PENTLAND'S Bill provides for the appointment of veterinary inspectors by local authorities in Scotland, and the licensing of dairies. It is to be the duty of the medical officer of health, or other officer authorised by the local authority, at least once a year to inspect all dairies within a district and to make a report on them. Local authorities are to make by-laws regulating the inspection of cattle in [illegible]

Local Government Board for Scotland is given powers by the Bill to make general or special Orders. These Orders may lay down (*a*) the measures to be taken for cooling the milk and protecting it against infection and contamination; (*b*) the prohibition or regulation of the use of preservatives; (*c*) the manner of conveyance of milk intended for sale for human consumption; (*d*) the prohibition or regulation of the mixing of the milk from different churns; and (*e*) the labelling of the receptacles of milk for sale for human consumption, where the milk is sold otherwise than in its natural state. Another clause in the Bill provides for the notification of cows suffering from tuberculosis or any other disease liable to infect or contaminate the milk. The milk of diseased cows must not be sold for human food, and diseased animals must be kept apart from healthy. Persons suffering from disease of an infectious nature are precluded from assisting in a dairy. Power to take samples of milk is given to medical officers of health and veterinary inspectors. The Bill contains 27 clauses, many of which provide the machinery for carrying out its main principles.

The Housing and Town Planning Bill.

The Housing and Town Planning Bill is now awaiting its committee stage, which is to be taken in committee of the whole House. Several Members have given notice of their intention to move instructions before the committee stage is actually begun. Sir WALTER FOSTER, following up the line which he took in the debate on the second reading of the Bill, intends to move "that it be an instruction to the committee to extend the scope of the Bill so as to make provisions with respect to the appointment and duties of borough and district medical officers of health." The amendments to the Bill, of which notice has been given, fill about 22 pages of the notice paper.

The Principalship of Aberdeen University

The appointment of the Principal of the University of Aberdeen, in succession to the late Principal MARSHALL LANG, is occupying the attention of the Secretary for Scotland. Some time may elapse before the appointment is announced, but in Parliamentary circles the name of Dr. MATTHEW HAY, Aberdeen, is freely mentioned in connexion with it. It also has been stated that there is a probability that the appointment may be given to a gentleman not at present associated with the work of the University.

The Medical Acts (Amendment) Bill.

Mr. COOPER has withdrawn his Medical Acts (Amendment) Bill dealing with the subject of anæsthetics. Several Members put down hostile motions which barred its progress, but its disappearance will be only temporary. The object of the Bill was to require a medical practitioner applying for registration on or after January, 1911, to submit evidence of having received practical instruction in the administration of anæsthetics and to prohibit any person not a registered [illegible] an anæsthetic except under certain [illegible] registered as dentists before the [illegible] safeguarded. Those who are acting with Mr. COOPER on the subject of the administration of anæsthetics are anxious to have the provisions of the Bill extended as regards registered dentists. His simplest course, therefore, has been to withdraw the Bill temporarily and to reintroduce it in an amended form. The reintroduction will take place in a few days.

Public Health and Social Conditions

An interesting Blue book containing statistical memoranda and charts relating to public health and social conditions has been presented to Parliament by the Local Government Board. The volume generally has been prepared by Mr. C F. ADAIR HORE, but the Poor law and public health sections have been produced under the supervision of Mr. DAVY and of Dr. A. NEWSHOLME, the medical officer of the Board, respectively. The section relating to public health deals with the rates of mortality in the United Kingdom, European countries, and large towns, infant mortality, the principal causes of death, the mortality from various diseases, including tuberculosis, public health administration, housing and overcrowding, and the public medical service Much interesting information bearing on these subjects is given in this section.

HOUSE OF COM[illegible]

THURSDAY, JUNE 3R[illegible]

Enteric Germ-carriers Amongs[illegible]

Mr. JOHN WARD asked the Secretary of St[illegible] non-commissioned officers and men now under [illegible]

TUESDAY, JUNE 8TH.

Tuberculosis in Greenock.

[illegible]

The Budget and Medicines.

[illegible]

WEDNESDAY, JUNE 9TH.

Returns on Experiments on Living Animals.

Mr. GEORGE GREENWOOD asked the Secretary of State for the Home [illegible] in order that the public might be informed where such places actually were.—Mr. GLADSTONE replied: The answer to the first and second parts of the question is in the affirmative. The [illegible] institution.

BOOKS, ETC., RECEIVED.

REBMAN, LIMITED, London.

The Diseases of Women. By J. Bland Sutton, F.R.C.S Eng., and Arthur E Giles, M.D., B Sc. Lond, F.R C S Edin. Sixth Edition. Price 11s net

[illegible] ndon.

[illegible] *Ophthalmoscopic Dia*[illegible]h. Second American [illegible]rged German Edition Price 13s. net.

[illegible] Including a Brief [illegible] By Prof. Dr. O Haab, [illegible] the German. Third [illegible]hweinitz, A.M., M.D. Price 13s. net

SCIENTIFIC PRESS, LIMITED, London.

Burdett's Hospitals and Charities. 1909 By Sir Henry Burdett, K C B., K.C.V.O. Price 7s 6d net

SWAN SONNENSCHEIN AND CO, LIMITED, London. (CLARKE, S., Manchester.)

The Intermediate Sex. A Study of Some Transitional Types of Men and Women By Edward Carpenter. Price 3s 6d net.

SWAN SONNENSCHEIN AND CO, LIMITED, London.

The *Climate of Strathpeffer* By H. W. Kaye, M.D. Oxon. Price *2s. 6d*

THOM, ALEX., AND CO., Dublin (LONGMANS, GREEN, AND CO., London

The Royal University of Ireland. The Calendar for the Year 1909 Price not stated.

Examination Papers, 1903. A Supplement to the University Calendar for the Year 1909 Price not stated.

TIPOGRAFIA "LA SPERANZA," Roma.

La Nuova Scienza Medica ossia La Sifilide ereditaria ed acquisita in rapporto alle *Malattie del Corpo umano* Per il Dr. Pasquale Fusco. Volume I. Price not stated.

URBAN UND SCHWARZENBERG, Berlin und Wien.

Atlas der Rectalen Endoskopie. Von Dr. Arthur Foges, Wien, I. Teil. Price M.14.

Appointments.

Successful applicants for V[illegible] [illegible] of Public Institutions, and others possessing [illegible] for this column, are invited to forward to [illegible] directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

BURGESS, MILDRED M., M.D. Lond., has been appointed Medical Officer of the Brixton Hill London County Council Industrial School for Girls.

HEATH, A. D., M.D. Lond., M.R.C.S., M.R.C.P. Lond., has been appointed [illegible] the Skin Department of the General [illegible]

HEATON, G[illegible] [illegible]n., F.R.C.S. Eng., has been re-appoi[illegible] to the General Hospital, Birmingham.

MASSON, CHARLES ARMIT, M.B., Ch.B. Aberd., has been appointed Senior Assistant Physician at Inverness District Asylum.

MCKILLOP, A. C., M.B., Ch.B. Edin., has been appointed Junior Assistant Physician at Inverness District Asylum.

MOORE, IRWIN, M.B., C.M., has been appointed Assistant Surgeon to the London Throat Hospital.

NIALL, W. G., M.D., M.S. R.U.I., has been appointed Medical Officer to the Guildford No. 2 District.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BERMONDSEY MEDICAL MISSION.—Resident Assistant (female).

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £170 per annum, with rooms, fire, lights, and attendance.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Resident Medical Officer. Salary £150, with board and residence. Also House Surgeon for six months. Salary at rate of £75 per annum, with board and residence.

BOURNEMOUTH, ROYAL BOSCOMBE AND WEST HANTS HOSPITAL.—House Surgeon, for six months. Salary at rate of £80 per annum, with board, lodging, and washing.

BRADFORD POOR-LAW HOSPITAL AND WORKHOUSE.—Assistant Resident Medical Officer (female). Salary £130 per annum, with rations, apartments, and washing.

BRECON AND RADNOR ASYLUM, Talgarth, Breconshire.—Assistant Medical Officer. Salary £170 per annum, with board, apartments, attendance, and laundry.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—House Surgeon, unmarried. Salary £130 per annum, with board and residence.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Surgeon also Assistant House Surgeon, both unmarried. Salaries £80 and £60 [illegible], lodging, and washing.

CITY OF [illegible] THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board, washing, and residence.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon. Salary £75 per annum, with residence, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry. Also Medical Officer and Second Medical Officer to the Casualty Department, both for six months. Salaries at rate of £100 and £40 per annum respectively with luncheon and tea.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, S.E.—House Physician for seven months. Salary at rate of £60 per annum, with board, residence, and washing. Also Clinical Assistants in the Out-patient Departments.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

GLOUCESTERSHIRE EDUCATION COMMITTEE.—School Medical Inspector. Salary £250 per annum, with travelling expenses.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Also Assistant House Surgeon. Salaries £100 and £50 per annum respectively, with board, residence, and laundry.

INDIAN MEDICAL SERVICE, India Office, London.—Twenty-one Commissions.

INVERNESS, NORTHERN INFIRMARY.—House Surgeon. Salary £100 per annum, with board, &c.

IRELAND, LURGAN UNION WORKHOUSE AND FEVER HOSPITAL.—Resident Medical Officer (female). Salary £80 per annum, with apartments, laundry, and rations.

KENSINGTON AND FULHAM GENERAL HOSPITAL, Earl's Court, London, S.W.—Resident Medical Officer. Salary £50 per annum, with board, washing, and residence.

LEEDS, WEST RIDING ASYLUM, Menston.—Fourth Assistant Medical Officer. Salary £150 per annum, with board and apartments.

LINDSEY (LINCOLNSHIRE) EDUCATION COMMITTEE.—Two School Medical Inspectors. Salary £300 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—Two Resident Medical Officers for six months. Salary in each case £30, with board and residence.

LONDON COUNTY ASYLUM, Colney Hatch, New Southgate, N.—Junior Assistant Medical Officer. Salary £160 per annum, with board, apartments, and washing.

LONDON HOSPITAL MEDICAL COLLEGE.—Assistant to the Bacteriologist and Lecturer on Bacteriology.

LONDON TEMPERANCE HOSPITAL.—Assistant House Surgeon, for six months. Salary at rate of £75 per annum.

LUTTERWORTH UNION.—District Medical Officer and Public Vaccinator. Salary £40 per annum and fees.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Junior Resident Medical Officer. Salary £5[illegible] per annum, with board and residence.

NEW HOSPITAL FOR WOMEN, Euston-road.—Medical Woman to tak[illegible] Charge of X-Ray Department. Also an Anæsthetist.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Third Resident Medica[illegible] Officer. Salary £60 per annum, with board, residence, and laundry

NORFOLK COUNTY ASYLUM, [illegible] Medical Officer. Salary [illegible]

NORWICH, JENNY LIND IN[illegible] Resident Medical Office[illegible] [illegible] per annum, wit[illegible] board, apartments, and laundry.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Junior Obstetri[illegible] Assistant (Resident) and Clinical Assistants (female).

ROYAL WESTMINSTER O[illegible] William-street West Strand, W.C.—[illegible]

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—Three Clinical Assistants.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.—Honorary Physician.

SEAMEN'S HOSPITAL SOCIETY.—Pathologist. Salary £100 per annum, with board.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer. Salary £100 per annum, with apartments, rations, &c.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—[illegible] six months. Salary at rate of £100 per annum, [illegible], and [illegible]

STOKE-ON-TRENT, NORTH [illegible] ARY AND EYE HOSPITAL, Hartshill.—Re[illegible] House Physician, and Junior House S[illegible] £100, and £50 per annum respectively, with apartments, board, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Physician for six months. Salary £30, with board, lodging, and laundry.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence and washing.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Resident Obstetric Assistant for six months. Board and lodging provided.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary [illegible]

[illegible] laundry.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Two House Surgeons. Salary £80 per annum, with board, lodging, and laundry.

Births, Marriages, and Deaths.

BIRTHS.

BASHFORD.—On June 4th, at 18, Downshire-hill, Hampstead, N.W., the wife of H. H. Bashford, M.D. Lond., of a daughter.

DENYER.—On May 30th, at Albion-street, Hull, Yorks, the wife of Stanley E. Denyer, C.M.G., M.D. Cantab., F.R.C.S. Eng., of a daughter.

GREENE.—On June 5t[illegible] Cheshunt, Herts, the wife of W. A. Greene, [illegible]

SPOOR.—On May 29t[illegible] Newington, London, the wife of Herbe[illegible] [illegible]in., M.P.S., of a son.

WILSON.—On June 5[illegible] the wife of J. Clark Wilson, M.D., M.[illegible]

MARRIAGES.

MILLER—WHITE.—On June 5th, at St. Mark's Church, Hamilton-terrace, by the Rev. H. C. Frith, Vicar of the Church of the Holy Redeemer, Clerkenwell, Reginald Miller, M.D., M.R.C.P., to Ethel, [illegible] White of Newton Abbot.

[illegible] parish church, Grantham, [illegible], M.B., to Dorothy Louisa, [illegible] Bousfield, M.A., Rector of [illegible]ld, Grantham.

[illegible] Church, Munich, by the resident chaplain, the Rev. D. Cooper Hunt, M.A., William McConnel, second son of the late Rev. Edward Wanklyn, Vicar of St. Michael's, Bournemouth, to Ethel, fourth daughter of the late Rev. C. H. Rice, Rector of Cheam.

[illegible], at the parish church, Croydon [illegible] Myrtle, youngest daughter of [illegible] Davidson.

DEATHS.

GATHERGOOD.—On Tuesday, June 1st, after a long illness patiently borne, Benjamin William Gathergood, M.D. (retired), at his residence, Aylmer Hall, Tilney, near King's Lynn, Norfolk, aged 57.

LEEDS.—On May 31st, at Mutrayfield, King's-road, Reading, Charles George Stretton Leeds, M.D., youngest son of the late Henry Leeds, Cheltenham.

[illegible] Samuel Thomson [illegible]

[illegible] Dorothy Skerritt, widow of the late Edward Markham Skerritt, M.D., F.R.C.P., of Ivor House, Durdham Park, Bristol, and eldest daughter of John Heelas of White Knight's Park, Reading, in her 60th year.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE BRITISH FIRE PREVENTION COMMITTEE.

THE occasion of the tenth anniversary of incorporation was celebrated recently by the British Fire Prevention Committee in various ways. A series of fire tests with fire-resisting doors was conducted at the committee's testing station at Regent's Park, and an anniversary banquet, *under the presidency of Mr. E. O. Sachs,* was held on May 25th at the Gaiety Restaurant.

The chief toast of "Success to the Committee" was given by the Earl of Londesborough, who pointed to the successful work done by the committee in reducing the loss of life and property from spread of fire, and who also dwelt on the greater knowledge of building materials and appliances obtained by the scientific and independent *tests at the committee's testing station,* which had done much to obtain a better understanding as to the value and also the limitations of the different methods of construction and equipment. He emphasised the fact that the committee's funds had been voluntarily raised and that during the ten years' work some £23,000 had been spent in research. About 150 subjects had already been under investigation, some of these involving as many as 20 or 30 testing *operations.*

The Chairman, in reply, indicated that the question of popularisation of fire prevention as affecting child life in particular would have the most serious consideration of the committee in the future, and that their efforts would be employed to combat the carelessness which resulted in children playing with fire, the dropping of matches in the street, and the use of celluloid combs and flannelette clothing.

[illegible] harmoniously to a common end.

A number of foreign delegates from the International Fire Service Council who were present spoke in appreciative *terms of the committee's* work of the last ten years. Many telegrams brought messages from abroad to the same effect.

The widespread acknowledgment of the research work and the reports of the British Fire Prevention Committee is well deserved, for it is a private body working voluntarily, whilst similar work [illegible] most terrible that in this country we are called upon to face. And there is too often a close parallel between the salvage which the fire brigade can effect in a burning house and that which the physician can bring about in a diseased body. The only satisfactory treatment for fire and disease alike is to prevent their occurrence, and in this endeavour the British Fire Prevention Committee is in honourable [illegible] research into the causes of the evils which they exist to combat. Anyone desiring further information of this interesting society will find its offices at 1, Waterloo-place, Pall Mall, S.W.

"RONTGEN RAY WRINKLES."

To the Editor of THE LANCET.

SIR,—I think Mr. Leslie Miller has chosen a singularly unfortunate title for his book—"Röntgen Ray Wrinkles." As Röntgen ray treatment is now so popular, not to say fashionable, for skin diseases such as eczema, the lay reader will be horrified to think wrinkles can be the result of this treatment!

I am, Sir, yours faithfully,

Park-street, W., June 6th, 1909. BERNARD E. POTTER.

THE LATEST QUACK ADVERTISEMENT.

THE gullibility of the public in all ranks of life as to anything concerning their health is well known. There is no form of "treatment," from "Christian Science" down to rheumatic rings, which is not believed in by someone. The United States are, however, the happy hunting ground of the quack, and the matter which we reproduce below will, we are sure, bring joy to the mind of Dr. Weir Mitchell as a story worthy of the delightful quack whose autobiography he wrote some few years ago.

Dr. Kaufmann, according to the circular which puffs his remedy, was in 1850 a professor at the University of Berlin, a post which he held for 13 years, during which time he is stated to have written *largely for* THE LANCET. *Concerning both these statements we* have considerable doubts. Among the numerous diseases which Kaufmann's Bitters will cure (according to himself) is "scrofula," and the letter which follows was written by a Mrs. Shaw, "a celebrated spiritualist and clairvoyant physician of West Twenty-Sixth-street, New York City." Mrs. Shaw, it will be noticed, does not give the year in which the *occurrence* took place.

(Copy)

New York City, August 1st.

My Dear Dr. Kaufmann,—Some time ago I treated a case of scrofula of over twenty-five years' standing, for which thousands of dollars had been paid without receiving any benefit. It came to my notice in [illegible] One evening while [illegible] fth Avenue, my attent[illegible] ho gathered was Mrs. ——, the wife of a wealthy banker of New Orleans, who [illegible] The [illegible] was [illegible] rious kinds had occurred, when, all of a sudden, rappings, screeches, and yells took place. In fact, it seemed as if a babble of noises had broken loose, when the bedroom door opened, and an empty bottle [illegible] one, until it was in front of this lady, who was troubled with the [illegible] then blew into the same lady's lap. It was afterwards examined and read by us all. I then persuaded the lady to try it. At this time she had suffered for twenty five years. Her case was the worst I ever saw. Her ears and eyes were in a most pitiable condition, and on her neck she had scrofulous lumps. And then for over six months she had suffered with running sores on her leg, and at this time her eyes were in such a condition that she could hardly see out of them, and her face was so bad that it almost made me shudder, as used as I am to look on the sick and suffering. Well, Doctor, to make a long story short, she took my advice and used your Sulphur Bitters, for when I saw those spirit manifestations take place that evening I knew Sulphur Bitters would cure [illegible] cured, [illegible] them [illegible] w me to say that I never saw the equal of your Sulphur Bitters in all diseases of the blood.

I am, yours sincerely,

EVANGELINE SHAW.

AN INFLUENTIAL APPEAL.

IN response to the appeal in THE LANCET of May 15th, the following further subscriptions have been received:—

	£	s.	d.
Amount already acknowledged	22	13	0
Mr. A. J. Horne, President, R.C.P.I.	3	3	0
Mr. J. Lentaigne, President, R.C.S.I.	3	3	0
Dr. Lombe Atthill (Monkstown, Co. Dublin)	2	0	0
"Melitensis" (Malta Postal Orders)	2	0	0
Dr. J. J. Charles (Portstewart, Co. Derry) ...	1	0	0
"Sympathy"	2	2	0
"A Practitioner" (Dublin)	1	1	0
Mr. Arthur Finegan (Mullingar)	1	1	0
Mr. J. Knox Denham (Dublin)	1	1	0
	£39	10	0

PICTORIAL PRECEPTS FOR THE TUBERCULOUS.

WE have received a large sheet of highly picturesque illustrations showing what to do and what to avoid with a view to the prevention or limitation of tuberculous infection. Being well calculated to arouse popular interest, these pictures afford the most promising means of appealing to that section of the public which is in a general way impervious to advice on the subject of personal health. *The illustrations represent in a graphic manner the evils of indiscriminate spitting,* of intemperance, of constantly [illegible] and other hygienic errors. [illegible] supplied in three sizes, suitable respectively [illegible] hanging up, and as a handbill. We understand that the health com*mittee of Richmond,* in Surrey, is making use of these pictures for inculcating hygienic principles.

"METHODS OF BARBARISM" IN ITALIAN HOSPITALS.

IF anything could accelerate the reforms in the hospitals of Italy—reforms (writes an Italian correspondent) long engaging the attention of special commissioners and calling loudly for prompt and effective enforcement—it would be such an incident as the following, which has been going the round of the Roman press. A little girl, between seven and eight years of age, of respectable parentage, was recently *admitted* into the Policlinico for diphtheria and placed in the isolation pavilion. A "suora" (nun), with two "infermiere" (assistant nurses), was in charge of the ward. The little patient cried without ceasing, so audibly that the "suora," losing patience, seized her one evening, and with the aid of an "infermiera" dragged her to the dead-house, in which several corpses were lying. "If you don't keep quiet," was the "suora's" threat, "we'll leave you here among the dead bodies." The little girl, terrified out of her wits, "kept quiet" accordingly; but her parents, shortly thereafter, having come to know what had been done to her, lodged a complaint with the director of the Policlinico, who ordered the "suora" to be dismissed from the hospital. This is the last of a series of "irregularities" (to put it mildly) which, occurring in the best appointed and most "up to-date" of the Roman hospitals, has diffused something like a panic in the poorer classes, who (in the words of the official *Tribuna*) "tremble at the thought of their children having to go to the Policlinico." The dismissal of one of the clinical staff for moral turpitude; the "flirtations" (or worse) between patients and their visitors or attendants; the abandonment of the moribund by "suore" and "infermiere" alike; thefts of clothing and other articles belonging to the administration of the hospital; general disorder resulting from perfunctory surveillance—these and other sinister details to which the official journal calls attention in the week now passing more than justify the repugnance felt by the poorer classes to enter the Policlinico, or, indeed, the sister institutions whose record is not a whit more creditable. In an article on the whole question of the Policlinico and its management, the *Tribuna* draws attention (among many other abuses) to the pernicious system of "tipping" the nurses and inferior *personnel*. Inadequately paid, these functionaries graduate their services according to the "mance" (gratuities) they receive from the parents or relatives of the patients. "Hence," says the official journal, "the quarrels, the rivalries, the irregularities, in a word, the disorganisation of the service." The whole hospital system, indeed, not only in Rome but in the provinces, is more than ripe for reform, reform of the most drastic, the most "root-and-branch" description. Italy has many friends, nowhere so many or so free-handed as in the English-speaking world. But there are limits even to British-American loyalty and largess, and not a few among her sympathisers and supporters are beginning to echo the dying words of her life-long friend, Sir James Stansfeld, the coöperator and subsidiser of Mazzini and Garibaldi: "This Italy"—he used the words to Mde. White-Mario, as reported in the *Tribuna* some ten years ago—"is not the Italy you and I fought for!"

LYNN THOMAS AND SKYRME FUND.

THE following additional subscriptions to the above fund have been received: J. Harris Jones (Maesteg), £1 10*s.*; S. P. Francis (Brecon), 10*s.* 6*d.*

THE "HANDY" URINE COLLECTING BOTTLE.

IT is a matter of daily necessity to obtain samples of urine for purposes of analysis. The ordinary medicine bottle is not convenient for this purpose owing to its narrow neck. Messrs. C. J. Hewlett and Son, 35 to 42, Charlotte-street, London, E.C., have designed a new bottle in which the neck is extended in the shape of a funnel. It is convenient in shape, is secured by an indiarubber stopper, and enclosed in a neat japanned case. The bottle, which has a capacity of about four and a half ounces, can be easily cleansed and a roughened space is engraved on the front on which the name of the patient may be written. We have no doubt that this simple piece of apparatus will prove useful. The price is 2*s.* 6*d.*

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—Arthur Whitfield, E. G. Graham Little): at 5 P.M.

Dr. Wilfred Fox and Dr. Rolleston: A Case of Leukæmic Infiltration of the Skin.

And other Cases.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—Hugh Lett, E. I. Spriggs, Harold J. Stiles).

Provincial Meeting at Edinburgh.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., Dr. J. A. Braxton Hicks: Exhibition of the Better-known Tropical Parasites.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY AND THURSDAY.—5 P.M., Dr. W. S. Lazarus-Barlow: Radio-activity and Carcinoma (an Experimental Enquiry). (Croonian Lectures.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. Galloway: Clinique (Skin). 5.15 P.M., Lecture:—Mr. L. Mummery: The Diagnosis of Diseases of the Rectum and Anus.

TUESDAY.—4 P.M., Dr. P. Stewart: Clinique (Medical). 5.15 P.M., Lecture:—Dr. W. H. H. Tate: Climacteric Hæmorrhage.

WEDNESDAY.—4 P.M., Mr. P. J. Freyer: Clinique (Surgical) 5.15 P.M., Lecture:—Mr. C. Dent: Persistent Symptoms after Head Injuries.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. E. Corner: Affections of the Umbilicus.

FRIDAY.—4 P.M., Mr. M. S. Mayou: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Pathological Demonstration:—Dr. Bernstein. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Bidwell: Practical Surgery.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. S. Taylor: Valvular Disease—Aortic Obstruction.

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Harman: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Medicine.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Edwards: Clinical.

FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. Lecture:—Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Mr. B. Harman: "Pink Eye."

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. Mr. Harman: Diseases of the Eyes. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans) 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical Out-patient (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M., Lecture:—Dr. G. G. Macdonald: Pathology of Cardiac Inflammations.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture Demonstration: Mr. A. de Prenderville: On the Administration of Anæsthetics.

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. Carle[illegible] the Ankle.

WEDNESDAY.—2 P.M., [illegible]ylor: Medicine. 3.30 P.M., [illegible]tient Demonstrations:—1[illegible] Eye. 3.30 P.M., Special Le[illegible]nosis and Treatment.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 2.15 P.M., Special Lecture:—Dr. R. Bradford: Some Varieties of Anæmia.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Sir William Gowers: Tremor.

FRIDAY.—3.30 P.M., Clinical Lecture:—Sir Victor Horsley: Surgery of the Nervous System.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Dr. Atkinson: Pharynx and Nasopharynx.

FRIDAY.—3.45 P.M., Lecture:—Dr. Abercrombie: Pharynx and Nasopharynx.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, W.

Mo [illegible]
Tu [illegible]
We [illegible]
Th [illegible]
Fri [illegible]

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (14th).—London (2 [illegible] Thomas's (3.30 P.M.), St. G[illegible] Middlesex (1.30 P.M.), We[illegible] Samaritan (Gynæcological, [illegible] (2 P.M.), City Orthopædic (4 [illegible] West London (2.30 P.M.), [illegible] (2 P.M.), Guy's (1.30 P.M.), [illegible] St. Mark's (2 30 P.M.).

TU[illegible]

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1 30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), West- [illegible]

THURSDAY (17th).—St. Bartholomew's (1 30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. [illegible]

F[illegible]

Tottenham (2.30 P.M.), St. Peter's (2 P.M.), Central London Throat and Ear (Minor 9 A.M., Major, 2 P.M.).

SATURDAY (19th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9 30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond street (9 A.M. and 9 30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily

EDITORIAL NOTICES.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 10th, 1909.

Date.	Barometer reduced to Sea Level [illegible]	Direction of [illegible]	Rainfall	Solar Radio in Vacuo	Maximum Temp Shade	Min Temp	Wet Bulb	Dry Bulb	Remarks.
June [illegible]									
"									
"									
" 7	30 08	E	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
" 8	30 03	W.	...	115	69	47	51	55	Fine
" 9	30 07	N.W	...	101	65	53	52	55	Cloudy
" 10	30 00	N E	...	68	54	52	52	54	Overcast

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An Address

ON

A PROMINENT MOTIVE IN MURDER.

Delivered before the Medico-Legal Society on May 25th, 1909,

BY T. CLAYE SHAW, M.D. LOND., F.R.C.P. LOND.,

EMERITUS LECTURER ON PSYCHOLOGICAL MEDICINE AT ST. BARTHOLOMEW'S HOSPITAL.

MR. PRESIDENT AND GENTLEMEN,—In obedience to the Censors of this society the title of the paper I have the honour of reading before you this evening—"On a Prominent Motive in Murder"—is, I fear, a tame one, calculated not to offend the susceptibilities of the most meticulous. Now that I am in possession of the rostrum you will, perhaps, kindly allow me to say that the subject I am bringing to your notice is the "lust for blood" as an incentive to murder, and inasmuch as I confess that the title does savour somewhat of the sensational I have coined a word, *hæmothymia*, which may I hope be allowed to pass muster and to do duty as a fit heading for a somewhat unlovely topic.

THE LUST FOR BLOOD—HÆMOTHYMIA.

I venture to hope that this subject may be deemed worthy of consideration by this society because there figures in many medico-legal cases the statement, which at times becomes an excuse, that with the sight of blood the desire or the impulse which caused the assault is satisfied; that an irresistible craving for blood prompted the agent to attack his selected, or in some instances indiscriminate, victims; and that this lust for blood—which prompts the name of "human tigers" for this class of persons—is to be held as an extenu [illegible] culpability of the prisone [illegible] objects of this society [illegible] conditions under which [illegible] *mmitted*, the presentation of this phase of emotional compulsion must be of interest if it leads us to a better comprehension of the conditions under which, terrible and repellent as they are, it occurs.

It is an unfortunate thing for a man when the emotional side of his mind leads him to commit crime—the intellectual side when it takes the form of delusion is fairly easily held to mitigate his responsibility; but however acute the mere feeling may be, however strong its compelling force, however morbid in its intensity, such a plea as "affective" or "emotional" insanity rarely, if ever, succeeds (unless to the allowance of extenuating circumstances) in procuring acceptance. And yet feeling and emotion are the chief sources, the well-springs, of action in life! *What is the poet or the painter or the musician without feeling or emotion?* What secures the upbringing of the infant, with its endless accompaniments of trouble and worry, but the emotional side of mind? The very sources of the fight for life, for food, for progress, for social safety are *essentially from the tapping of the emotional or affective* promptings. Indeed, will itself is so largely made up of emotional element that it is doubtful if it could exist without it; certainly, any preponderance or diminution in the intensity of the emotional part of the content of any state of willing must seriously *affect its validity*. If, *as experience* shows, there arise conditions or cravings which the sight of blood satisfies, we have to enquire into the nature of those conditions, whence they spring to such heights and with such force, and whether their existence is a morbid one.

There has always been an element of mystery about blood. From all time it has been bound up more than any other constituent of the body with life. Our earliest lessons from the Bible have held the flow of blood as the necessary indemnity for the remission of sin, and at the time of the Passover the sight of blood on the door-posts was the sign of protection from the destroying angel. It is the one constituent of the body forbidden by Mosaic law to be used as food. The very smell of it is peculiar, and to many is sickening, while many nursery rhymes and fairy tales are redolent of it, connotative of cruelty and revenge, and illustrating that the shedding of it is the last act of the fulfilment of a desperate purpose. Sir W. Thiselton-Dyer told me an incident which occurred during the time of Sir Mountstuart Grant Duff as Chief Commissioner in India. His Excellency had occasion to visit a native tribe in the outlying parts of Madras. As a visit from the Governor was a rare event much was made of it, and the natives gave him a most enthusiastic reception, in return for which the Governor promised to grant them, within his power, any particular favour desired in commemoration of his visit. The natives said that they had a statue of Agriculture which they wished to pacify inasmuch as their crops had for some time been bad. This pacification could only be effected by offering to the goddess the blood of a human victim, and they asked permission to be allowed, *just for once*, to celebrate the rite. They said that they had found that when the posts in front of the goddess's temple were smeared with blood the harvest was most abundant. *They had tried red sealing-wax on the lintels*, but found that it was of no use—the goddess was not to be taken in! From the very nature of its action, the guillotine had possibly more to do with the virulence and duration of the French Revolution than would have been the case if a bloodless method of execution had been used. The fury of the mob was undoubtedly increased and prolonged by the sight of blood, and when our bloodless executions were done in public the mental tone of the spectators was nothing compared with what was witnessed in our neighbours on similar occasions but with a different method. To those unaccustomed to the flowing of blood there is an emotional tone, induced partly by the sight, partly by the smell, and in part by the idea that life is in danger, and even to those accustomed to it a large hæmorrhage is always a matter involving anxiety and nervousness. I have noticed that surgeons whose operations are attended with much hæmorrhage, such as those on the tongue and throat, find the mental strain more than other classes of operators and sooner retire from their sphere.

Animals seem to associate life not so much with movement as with blood. They obey their tamer however much he may move about, but if he should happen to scratch himself and cause blood to flow, so that they see it and get the odour of it, there is no longer any safety for him. A man in the clutches of a wild animal may have a chance as long as he is perfectly still and has no wound, but the wild beast in quest of food knows that movement in its prospective prey means possible resistance and a potential fight, and therefore it may possibly attack a moving object, but if on the moving object there is blood then an attack becomes a certainty.

Young soldiers in action are said to be unnerved at the sight of blood, and for this reason it is said that the scarlet uniform was used either to conceal the colour of the blood as it flowed or to accustom the men to the colour of it. There is no doubt that the custom of "blooding the hounds" and the inauguration by "blooding" into the clubs of hunting men and women have the same object—viz., to render them familiar with the sight and smell of blood, to *baptise them into the corporate body*, and by creating a familiarity and a membership to elevate to *an ideal* to be grasped what might otherwise have acted as a forbidding sentiment. I cannot find that in early times savages celebrated this cult of blood in their young and *inexperienced men except* by public sacrifices, but in the absence of complete history I can quite understand that it would have been done. Modern warfare being more a matter of long range instead of hand-to-hand fighting must have modified the emotional element in that it has made the *men accustomed to the idea* that they are fighting without being paralysed or excited by the sight of blood—at any rate for some time after action has begun. It would seem that there are two objects in fighting—one to kill and the other merely to injure and incapacitate; hence nothing in the *former excites passion* so much as does the sight of blood, because it stimulates to fresh exertions in the same direction; whilst in the latter, where the object is merely to injure and not to kill, the sight of blood has a sobering effect, for it frightens the agent and shows that he has gone further than he intended. Where the object is to *kill* the sight of blood may also have a calming effect, because it shows that what was desired has been accomplished and that there is nothing more to be done.

What we want to know is the state of mind which, without *external provocation*, prompts to those murderous outrages which from time to time occur (e.g., the Jack the Ripper cases) in which no object can be seen beyond an apparently uncontrollable desire for blood. Here we note that there is probably an *emotional complex* present, not merely the desire for blood, but also an admixture with the love of notoriety, of a wish to frighten the public and of self-satisfaction at finding the prominence attained, the last acting as an incentive to repetition of the process to feed the flame of vanity. Ivan Bloch (p. 51), in talking of the biological and ethnological significance of the colour *red* in the sphere of sexuality, says that the nature of the sadist to "see red" is firmly founded on a physiological basis and merely exhibits an increase of a normal phenomenon. Hence many ingenious prostitutes wear a red chemise. He compares: "Lust, murder, and sadism, where women inflict slight injuries on their love partners for the purpose of sucking blood, which gives them sexual gratification (sexual vampirism)." The element of *cruelty* does not enter into the question in the same way as some may think. Modern writers on social psychology and emotion (Ribot and MacDougall) do not discuss the question of cruelty—they hardly ever mention the word—and yet in generally discussing acts of this class the word "cruelty" is much used—the agents are said to be "cruel" and "senseless." If "cruelty" means the needless infliction of pain (mental or bodily) just for the sake of it, then it does not appear that these people are cruel any more than we should call an animal cruel who kills another for food. The agent may indeed be the reverse of cruel in this sense, for it is not the horror of the torture chamber that he perpetuates and dwells upon, but the satisfaction of his own inordinate desire which he must gratify. A "cruel" man is, etymologically speaking, one who thirsts for blood (*cruor*) and the adjective "crudus" means full of blood; hence raw, uncooked, unfinished, as secondary meanings, but by the majority the real significance of the word is not appreciated.

Let us dive down to the early periods of human life to see whether we can obtain any illumination upon this lust for blood. Animals, especially the carnivora, which have to get their living, seem to be specially attracted by the smell of blood and the sight of it; it makes them furious to be placed under the influence of it (even the herbivora are specially affected by the smell of blood—e.g., witness the terror of cows cooped up near a slaughter-house). The sight of blood has long been associated with the death of the victim, and hence with the opportunity for the appeasing of hunger, and therefore, even if it be supposed to be a connate instinct, there is yet the powerful law of association remaining to make it a feeling, an emotion, a mover of the first rank. Without the feelings or emotions there is no stimulus to either impulsive or voluntary action, and this seems as far as we are at present able to go in the analysis of feeling. We do not know what it is nor how it is originally developed; we can merely note its existence and that there are degrees in its intensity We must just accept *this*, that the desire for blood is primarily a necessity for the means of living and that it may be the only way to satisfy a certain mental and bodily craving; it denotes the satisfaction of trends or tendencies to violence and destruction which, conscious or unconscious, exist in all men. As Ribot says (quoting Gall), the most violent tendency has its source in normal life. There is an inclination gradually rising from the pleasure of seeing anything killed to the most overpowering desire to kill. It is possible to pass by imperceptible gradations from the extreme case to the normal state in the following order: the pleasure of killing, the overpowering desire to kill, the pleasure of looking on at killing, the pleasure of seeing the blood of animals shed, the pleasure due to the representation of violent and bloodthirsty melodrama, and lastly, the pleasure of reading bloodthirsty novels or hearing accounts of murders, which is purely an affair of the imagination. If there is one psychological law more firmly established than another, both by facts and argument, it is that every intense representation—i e., idea—of an act tends to realise itself. How is it, he goes on, that artists who feel things violently never pass them into action? Because the law is in them subject not to an exception but to a *deviation* by the creation of a work of art which delivers them from the haunting idea. Morbid art is thus a defence against abnormal tendencies which otherwise would tend to transform themselves into action. Man being a carnivorous animal retains the trend of idea that the blood—in his acts of necessity and amusement—is the main thing—he must always be killing something, and with many the killing is the chief object of life. Hence big battues and other sport. Early men and savages, to whom cooking was unknown, ate the flesh raw and drank the blood of their victims, and there are now many who prefer meat raw or underdone. I remember that some years ago I had to examine the mental condition of one of the survivors of the *Mignonette*, the yacht which was wrecked, when some of the crew were exposed to the greatest hardships of hunger and thirst. They were reduced finally to killing the boy (who was almost dead before his veins were opened), and one of the participators in the carnal feast told me that he never experienced anything more delicious than drinking the blood—no doubt he was in the state to appreciate anything in the form of nutriment; but even the remembrance of his experience came back with a satisfaction which it is difficult to believe would have been so forcible with any other medium. Ribot talks of the emotions of elation and self-display as instincts, just as the desire for blood is primarily an instinct, and without doubt we see this instinct of self-display in animals, birds, and human beings. It may become a passion transcending prudence, as in the various excesses of dress and social functions, but being harmful to no one but the individual we take no notice of it, as we have done away with sumptuary laws. We expect these instincts to be confined within sober limits by the gradual growth of judgment; but when we find that judgment has not developed with a restraining force we are not surprised at the overgrowth of the instincts and at the infractions of the law which necessarily ensue. "Wisdom and blood combating in so tender a body we have ten proofs to one that blood hath the victory," says Leonato in *Much Ado about Nothing*.

Instances of the results of the overpowering mastery of the sexual instincts occurring in people of otherwise good judgment and of great intellectual power, of indulgence carrying them into compromising situations in spite of the knowledge that they are on dangerous ground, are common enough. The divorce court teems with such experiences. Craving does not wait on judgment, but writers on emotion and feeling shirk the definition of this pushing force. Of the various hypotheses perhaps the best is that which supposes craving to be the demand of the organism for something which is necessary for its continuance or its nutrition. This does not help us much if we do not know what the conditions are which call for this ministration of physical or psychic material. But it seems to be about as far as we can go. The difference between a food and a stimulant comes in here. Alcohol is an augmentor of energy but it is not a food. Ink-drinking supplies iron to the anæmic girl. The extraordinary tastes of pregnant women doubtless indicate chemical and nutritional needs, but what is the condition which calls for blood? It is a psychical craving due to a mental state which ordinarily has no force beyond being a sign that what is required for nutrition is in a condition ready for satisfying the craving, and it is a notable instance of the transference from the object to the subjective condition on which the objective rests for its accomplishment. Such transferences are not uncommon, witness how women buy things merely because they are tempted into shops or bazaars; they do not want them, they may have no use for them, but the mere *act of buying* must be satisfied because the idea of acquisition is so intensified that it becomes ideo-motor. A person at a great height throws himself from a platform, not because he *wants* to kill himself, but because the idea of throwing becomes ideo-motor; the man of the ideal trend does badly to keep firearms or poison in his possession because the fact of possession adds to the intensity of the idea, and the idea is very apt without wish or intention to expend itself in ideo-motor action. The paintings of realistic artists, such as Félicien Rops or Fragonard, the horrors of the Wiertz gallery at Brussels, the sensational murder stories of E. A. Poe are the fortunate motor outcome of strong ideas—fortunate for the authors, for the ideas, though offensive to many, are in reality the harmless outpourings of what might have been dangerous trends for their possessors. We shudder and say, "What a morbid mind such and such a person must have had," not recognising that we are gazing at the working out of an idea which might have had a very different ending but for the fortunate direction in which the overmastering idea resolved itself. The influence of the literature of the penny-dreadful order in arousing ideas of a kindred nature acting as incitements to theft and murder is an every-day experience, and the momentary enthusiasm of pageant or of scenic display is taken advantage of by the cognoscenti to ensnare people in obligations who are afterwards surprised at finding to what they have committed themselves.

The other evening a man near me in the gallery at the moment of the play, *An Englishman's Home*, when the Englishman is led off the stage to be shot, shouted out, "Cheer up, old chap; be a man, it'll soon be over!" If the recruiting sergeant had been near he would have found a ready conscript at the moment! How he would have liked it after his excitement had been dissipated is another question. An emotion once translated into action is impossible to recall: there is no further experience of it until the centres become charged again. Without doubt, much of this excess of feeling is morbid; it ought not in a properly balanced mind to arrive at such an intensity as to bear down restraint, and if it rises to such a pitch as to do more than is necessary for the need of the individual and his social system—i.e., if it shows itself incapable of modification by the means adopted by the environment—then measures must be taken by the predominant Social to check it. But our sociology takes little account of trends and tendencies until it sees what they result in, and this is perhaps inevitable. If we arrested every person who showed emotional excess because in some cases it *might* result in rape, murder, or larceny, we should deprive the world of inventions, of works of art, of philanthropy, and even of brilliant oratory and literature. So we accept the whole budget of possibilities with the risks incident to the admixture of harmless and dangerous tendencies. But in taking the risk we must not under-estimate the forces for evil underlying the volcanic crust of the social system. Perhaps we do not, after all, under-estimate these forces—we are surprised at nothing nowadays. We live in such inflammable elements that we note with cold blood what is done when the blood is hot, knowing all the time that "the brain may devize law for the blood, but a hot temper leaps over a cold decree." When we do get hold of the violator of laws we punish him with rigour, and I am inclined to think that there is less regard than formerly for mental infirmity, though the medical claims for the nature and extent of mental unsoundness, and therefore of lack of real responsibility, are much greater and sounder than they ever were. Doctors know that emotional excitement or exaggerated feeling is a morbid condition, often the prelude to delusional insanity; but whether going on to that or not it is a symptom of degeneration in many instances connected with a bad ancestry, and as such is entitled, if to punishment at all, at any rate to a modified punishment; but what chance would a delinquent have who, on the plea of a morbid desire for blood, claimed mitigation of penalty—and yet such a person might be more dangerously unsound than the man who, through his incoherence and delusions, gets off without any difficulty. The man who has inordinate cravings and dangerous trends or tendencies may complain that society has no right to allow him to go about as a free agent and then to avenge itself upon him when his acknowledged morbid trend forces him to deeds which he is unable to keep from. As a rule, we inflict a money tax on libertinism due to emotional *lâchetés*, the co-respondent is heavily fined, the man who commits an assault under angry or jealous feelings (perhaps mixed up with sexualism in some degree) is fined or perhaps imprisoned, the emotional suffragette is fined or sent to gaol, but the man who sheds blood can only pay for it in kind—that is the one law of the Old Testament which we exact, perhaps because we are ourselves so susceptible to feelings of horror on the mere suggestion of blood-spilling. If, then, to normal persons the idea of blood-spilling is so repugnant, what must be the state of mind of the person who finds his only satisfaction in taking the blood of innocent persons? And yet there are such people, and we allow them to go about in our midst while we calmly await catastrophes! The feeling of curiosity is often the basis from which cruel[illegible] There is something [illegible] horrible, and here i[illegible] pass into action of some kind. In the lower orders of society there are more emotion and more display of it than in the upper classes, and this partly because the latter have long been educated to conceal their feelings; there is not the actual stress of life which it is the object of emotion and feeling to alleviate, whereas the urgency of living in the former leads to those acts of violence which are so much more common in it than in other platforms of the social scale. People talk about the apathy and the sobering influence, the calmness, and the dry, intellectual judgment of the middle and upper ranks, it is the absence of *nécessité de vivre* which conditions this peaceful state, this agapemone of conflicting interests; but even here the element of the original lust of blood may be seen in the crowding of fair women to see the most dangerous jump in the steeplechase, in their presence at a sensational murder trial, or in their interested and eager contemplation of the writhings of the witness in the box under cross-examination in the Divorce Court. Very curious are the cases where the desire for the sight of blood prompts to suicidal attempts. I had under care a young lady who was suffering from an attack of adolescent insanity, during which she poured a canful of paraffin oil over her head and hands and then fired it with a match. She was badly burned and afterwards was much scarred. What surprised her was that at the time of the act she felt no pain, owing, of course, to the condition of anæsthesia which sometimes occurs in these cases, more especially in the cataleptoid forms. Being anxious to see if her power of sensation had returned she afterwards cut herself seriously in order to ascertain whether the blood flowed and to show that she was really alive.

As we get lower down in the social scale crimes of murder and violence are most frequent; there is plenty of vice and infraction of the law in the higher classes, but it is of a different type, and may be described as more of the intellectual life, forgery, swindling on a large scale, emotional excess of the selfish form. This may be due in part, as our President the learned judge once said here, to excess in drinking (especially of bad liquor) among the lower orders, but another reason is probably to be found in the lower state of evolution and in the degenerative surroundings under which they live, circumstances which naturally reinforce any trend or tendency to the uncontrolled instincts with which early life seems inseparably bound up.

Modern psychology, though it has done much to analyse mental processes, has not been up to now successful in enlightening us as to the real nature of the elementary processes themselves. It seems doubtful if we shall ever be much nearer than we now are towards a real comprehension of them, but we do at any rate know that there are actual facts or conditions, and, helped by pathology, we know that these conditions may be exaggerated or distorted in some whilst in others they never rise to any prominence—may, indeed, be scarcely existent. The law, which may be described as the verdict of the intellectual element of mind, as the declaration of what is the truth with the emotional element filtered out, ignores the validity of the chief side of mind out of which action oftenest arises; hence the lawyer and the physician must come into conflict, unless they come to terms about the primary psychological dictum—viz., that emotion or feeling is the basis of voluntary action, and that, therefore, any morbid alteration in kind or intensity of the form [illegible] with the

I [illegible] of hæmo-prog[illegible]-day, the thyr[illegible] appeal for the putting down of armaments, the enthusiasm of vegetarians, the demand for the commutation of death sentences, can be regarded as due to a process of evolution. We may be more slow to anger (experience has taught us the advantage of that); we may be more willing to pay when in older times we should have fought; we may be more careful of life; we may conduct wars on more humanitarian principles, but when once engaged the old emotions seem to come up in all intensity, and on occasion the call for blood overwhelms every other.

The result of all this is that whatever it may mean there is an innate primary feeling with regard to blood—at one time attractive, at another repellent, but in all cases strong. That trends or temperaments foster the one and increase the other; that the instinct is probably connected with the earliest efforts to procure food; that just as the sexual instinct or that of fear may be the direction of a trend and may be so strong as to lead to all kinds of extravagances (as we see daily that they do), so may the lust of blc [illegible] lead to murderous acts; that being [illegible] more compelling than most ideas, and as such should be correctly estimated; that as emotion or feeling is the primary determinant of our efforts to live, it should hold a prominent place in our estimate of responsibility, because any morbid elevation of it renders voluntary inhibition negative and such voluntary power as is caused must be in its own direction. It can only be repressed by eradication of the conditions by which it exists, and when once seen seclusion methods should at once be resorted to without waiting for the acts to which it must of necessity lead.

NOTE ON SOME OF THE THEORIES AS TO THE MODE OF PRODUCTION OF GROCCO'S PARAVERTEBRAL TRIANGLE OF DULNESS.

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THE important paper contributed to THE LANCET of Dec. 5th, 1908, by Dr. Robert D. Keith and Dr. Arthur Keith on the Extension of a Pleural Effusion towards the Sound Side in a Still-born Child corresponding to Grocco's Paravertebral Triangle, had accidentally escaped my notice when it appeared. It deals so largely and with the weight of so much anatomical authority with the question as to the mechanism of that physical sign that it deserves the careful consideration of clinicians and particularly of teachers. In spite of the long interval which has elapsed, the following remarks may be still opportune as they do not appear to have been anticipated by any other published comments on the paper, and as they might yet elicit valuable criticisms from other quarters.

There are Paravertebral Dulnesses of Various Shapes and Origins, including that dulness which belongs to the bones and muscles of the back, and any dulness that may radiate across from a consolidation or a tumour. But there is only one of them which is of any use to us when our purpose is the detection of fluid—the "triangle" precisely as it is described by Grocco. Where opinions differ as to its presence the question arises as to the relative efficiency of the percussions themselves. As the dulness is *not a "dead dulness"* but a partial dulness only, the pleximeter undoubtedly gives an advantage to those trained in its use by yielding a much more definite note of dulness.

Had we no means available for discriminating between any spurious products of percussion and those that are genuine, and between *Grocco's triangle due to fluid* and any other paravertebral dulness not due to fluid, there would be a better excuse for confusions and for resulting doubts such as have recently found expression in THE LANCET, and as late as May 8th, 1909, in the *New York Medical Journal*, and which have delayed the general acceptance and use of a very simple and reliable method. That excuse ceased to exist after the publication in THE LANCET in 1905,[1] of the "*crucial test and counter test.*" If a dulness should disappear from the back on lying on one side and reappear on lying on the other side, it is not likely to be due to the bones and muscles of the back. Neither can it be the product of a pneumonic consolidation or of a tumour, unless we imagine that these can materially alter their relation to the chest wall (of course with due reservation for any pleuritic fluid bathing a pneumonia).

Apart from absolute scepticism as to its existence, the doubt which still prevails as to the cause of the phenomenon has been contributory to the delay. But the question has been thought not unworthy of the attention of anatomists, and among the best results of this prolonged discussion are those excellent contributions by Professor G. Elliot Smith of Cairo,[2] and by Dr. A. and Dr. R. Keith,[3] and the suggestions by Dr. F. W. Forbes-Ross,[4] all of whom recognise that the sign is a clinical one, though the cause be anatomical, and that any satisfactory explanation must rest equally on clinical and on anatomical evidence.

The Theories as to the Causation of the Triangular Dulness.—1. It may be convenient to attach the name of "the *Pleximetric-Spine Theory*" to that which is referred to by A. and R. Keith in the following terms: "Dr. William Ewart, who was the first in this country to explain the clinical signs of Grocco's triangle, ascribed it to the pleural effusion acting as a mute and preventing the vertebral column from conducting the pulmonary resonance."

Another view which they mention lies in reality outside the scope of the clinical question at issue, as it does not credit the effusion with the causation of the triangular dulness, but regards the latter as entirely physiological. "Dr. F. W. Forbes-Ross regards Grocco's triangle as a physical necessity of the anatomical conformation of the posterior chest wall; Roch and Dufour reach practically the same conclusion. Like Dr. Forbes-Ross they ascribe the triangle of dulness chiefly to the musculature of the back." The pleximetric spine theory is not critically analysed by the Keiths, but it is indirectly discountenanced by their approval of three other theories described in their valuable paper:—

2. *The Direct Fluid Dulness Theory.*—This is the old original theory which assumes a bulging of the water-logged pleural sac into the sound half of the chest sufficient to produce on percussion the paravertebral dulness.

3. *The Pulmonary Collapse Theory* will be presently discussed.

4. *The Posterior Mediastinal Mesentery Theory.*—This is the original and most important feature in their communication. It is set forth in the following words:—

> "The posterior mediastinal mesentery was described and figured by one of us in these pages some five years ago. It corresponds to the translucent triangle seen in the corresponding part of the thorax when the patient is examined in a suit[illegible] mesentery has been overlooked [illegible] hardened and always examined [illegible] and mediastinal contents are pressed backwards against the spine. It can be well demonstrated during the course of a post-mortem examination when the sternum and costal cartilages are removed. If the pericardium with its contents be then lifted forwards the posterior mediastinal mesentery will be seen to stretch from the pericardium to the spine and to have a front-to-back extent of from one to two inches. In our opinion Professor Elliot Smith is justified in applying the term [illegible] ll breath is [illegible] slack and long; it is its slacknes[illegible] and easy an extension of the con[illegible] side which has the higher ne[illegible] triangular in shape, apex above [illegible] when pressed into the sound side by a collection of fluid on the diseased side, thus giving rise to a triangle of dulness such as is described by Grocco."

The Direct Fluid Dulness Theory is best understood by glancing at their illustration (*loc. cit.*) based upon sections through the chest of a still-born infant in whom a *left pleural effusion* extended into the sound side, just as Professor Elliot Smith's illustration shows encroachment of a right pleural effusion into the left chest (*loc. cit.*)

> "It supports those who regard Grocco's paravertebral triangle of dulness as due to a direct extension of the pleural fluid or contents from the diseased towards the sound side. In Fig. A the contents of the thoracic cavity are exposed from behind. The left pleural cavity is distended by a pleural effusion, the left lung being compressed towards its [illegible] root, and the posterior mediastinal mese[illegible] mated leaflets of the right and left pleur[illegible] aorta, bulges towards the right so as to [illegible] lung. The extension of the posterior mediastinal mesentery [illegible] seen in the transverse section shown in B, *b*. The heart also is forced towards the right. …… Were such a chest to be percussed out an area of dulness to the right of the mid-line of the spine and corresponding to Grocco's triangle should be found."

The Pulmonary Collapse Theory seeks some support from the observation made by the present writer and appended to his original communication that an abscess below the diaphragm can give rise to a dull paravertebral triangle (which disappears immediately the abscess is evacuated).

> "Dr. Ewart believes that the fluid content of such an abscess acts, like a pleural effusion, as a mute on the spinal column. On theoretical grounds we should expect a subphrenic abscess to produce Grocco's triangle, but in a manner different from that supposed by Dr. Ewart. Recently Dr. W. Pasteur has dealt with "massive collapse" of the base of the lung as a sequence of subphrenic abscess and other abdominal inflammatory states; he ascribes, and we think rightly, the pulmonary collapse to a c[illegible] the diseased side, [illegible] tion. The do[illegible] raised upwards; there [illegible] of the elastic space on the diseased si[illegible] traction of the basal par[illegible] of the sound side there is the usual [illegible] sult that the collapsed basal part of th[illegible] drawn towards the sound side, giving rise to a triangular area of dulness."

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[1] THE LANCET, July 22nd, 1905, p. 216.
[2] THE LANCET, Sept. 28th, 1907, p. 890.
[3] THE LANCET, Dec. 5th, 1908, p. 1699.
[4] THE LANCET, June 29th, 1907, p. 1773.

Any criticism of the foregoing views must be confined to the main points. In the matter of theories it may be said with every deference that "safety is *not* in numbers." Three theories should not be required to explain one plain fact. If differing, they suffer mutual defeat; if similar, then their agreement should be more absolute than it is in this case, to fit a quantity so strictly constant as the "triangle."

This constancy is the second consideration of a general *order which is to the point. Grocco's triangle was originally* introduced to us in terms of angles and of millimetres, its height alone undergoing variation; although the pleural *effusions vary extensively in bulk. Subsequently, however,* when I discovered in 1905 that it can also be produced by collections below the diaphragm, and in particular by ascites, I was able to point out that the base of the triangle was apt to be *broader in the abdominal cases.* In short, it may be said of all three theories that they agree neither among themselves nor with the mathematical feature of the phenomenon they ought to explain.

Passing now to details, a principle of fundamental importance to clinicians in their study of intra-pleural events is the fact that a lung laterally compressed by fluid retreats into the spinal groove by virtue of the posterior position of the pulmonary root above and of the attachment below of the *posterior edge of the lung by means of the ligamentum latum* pulmonis. This recession and this attachment have always seemed to me to govern in effusion the persistence of the spinal and vertebral resonance for some distance below the upper level of the fluid, and the production of the S-shaped outline of dulness of Damoiseau, and they must not be lost sight of in the present connexion. In upward compressions from abdominal lifting of the diaphragm the same principle should hold good; and it is not easy to realise how the posterior pulmonary border could possibly vacate its groove.

Another principle is that whatever may happen to the anterior pulmonary border by way of collapse or of enlargement or of *encroachment into the other half of the thorax,* the pulmonary *root and a fortiori the posterior border are* incapable of any migration across the vertebral column. This is precluded by the attachments of the centrum tendineum to the spine on the one hand, and to the inferior vena cava on the other. The posterior and vertical axis of rotation of the heart which passes through the foramen pro vena cava from the liver up to the superior vena cava and the innominate artery may be stretched in its upper part, and lower down it may sway slightly with the centrum tendineum and with the liver under the stress of powerful pressures, as in Professor Elliot Smith's case. But this lateral displacement can amount only to very little, and the close connexion of the spinal column with the pericardium and the posterior mediastinum, *kept up through the vena azygos, raises* an impassable barrier between the two spinal grooves, precluding any transference of viscera from the one into the other.

There is, moreover, a new clinical fact which seems to leave little standing ground for any theory dependent upon alleged oscillations of fluids or of viscera across the middle line. I have more recently realised that a Grocco's triangle can be percussed out *on both sides of the spine in bilateral pleural effusions,* as well as in ascites. This is easily demonstrated by the skilful use of Sansom's pleximeter. The significance of this fact from the point of mechanism *is obvious. The two triangles could not be produced* by reciprocal encroachment by bulgings, but they can be explained as the result of reciprocal percussion waves. A pleximetric conduction would also seem to be the only explanation available for the telling fact that the two triangles are almost always *of uneven height* as the two effusions are rarely equal.

The conclusions may be briefly stated :—

1. Grocco's paravertebral thoracic triangle of dulness, due to fluid free in the pleura, is *rectilinear not curved;* and in other respects also it agrees with the description of it given by Grocco.
2. It is also produced by fluid collections in the abdomen; its base is then *broader* than in pleural cases.
3. In the latter neither its width nor its shape vary appreciably, but only its height; this rises exactly to the level reached by the effusion itself.
4. *In bilateral cases* of pleural effusion a Grocco's triangle can be made out *on both sides,* in spite of the dulnesses due to the two effusions. As the effusions are seldom quite equal two unequal Grocco's triangles are the rule.
5. *In ascites* and analogous abdominal cases the rule is for the two triangles to be equal; they therefore make up together a low but wide equilateral triangle bisected by the spine.
6. The simultaneous occurrence of a right and of a left Grocco's triangle is incompatible with the alleged causation by *pleural bulging* across the vertebral column.
7. The same reasoning applies to the theory that a *pendulum displacement* of the intra-thoracic viscera across the middle line might explain the dulness.
8. Anatomical probabilities are against any possible shifting of a *collapsed pulmonary base* away from its own *vertebral groove.*
9. The assumption that a Grocco's triangle is produced *directly* by any fluid or other non-resonant substance immediately *underlying it is negatived by the circumstance that* the general outline of the triangle is always "geometrically" the same and is not contingent upon the innumerable variations in size and in shape which *belong to fluid collections* or to solidifications.
10. This is an argument in favour of the causation suggested under the name of the *pleximetric spine theory.*
11. The same view is supported by the results of the *crucial test and counter test,* which also afford proof of the genuineness of this clinical sign and of its helpfulness in the diagnosis of pleural and abdominal conditions.

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PANCREATIC GLYCOSURIA TEN YEARS AFTER TYPHOID FEVER.

BY P. J. CAMMIDGE, M.D. LOND.

ON Sept. 8th, 1908, I was consulted by an American gentleman, who came to me with a letter of introduction from Dr. J. B. Murphy of Chicago. In his letter Dr. Murphy stated that the patient was suffering from diabetes and had been sent to me with the object of determining the condition of his pancreas and clearing up the etiology of the disease. He also informed me that there was a distinct history of cholecystitic infection.

The patient was a well-built, healthy looking man, 51 years of age. He had had no serious illness, except an attack of typhoid fever in 1898. There was no history of [illegible] gastro-intestinal disturbances, nor had he had any [illegible] -stones. Although [illegible] o alcohol. He had [illegible] The quantity of urine excreted had not increased. So far as he knew he had not lost flesh, nor had he noticed any diminution of strength. 3 per cent. of sugar had been found in his urine in the course of a routine examination at an American health resort in January, 1908, but on an anti-diabetic diet this had been reduced to about half.

A physical examination revealed nothing abnormal. The patient's tongue was not red or glazed, and his gums and mouth appeared normal. His skin was moist. His heart was not enlarged, the heart sounds were natural, and his arteries were not thickened. His abdomen and body generally were well covered with fat. No abdominal tumour or swelling could be discovered on palpation. The liver dulness was normal and the stomach did not appear to be dilated. Analysis of a specimen of the mixed night and morning urine gave the following results :—

[illegible] 1023; albumin, about 1 : 5000; sugar, [illegible] lhydrazin, crowds of [illegible] 33 per cent. sulphuric [illegible] luction (Bang's method). [illegible] stein's [illegible] nil; indican, a fairly well n[illegible] logical excess; blood, nil; [illegible] °C. [illegible] of a dextro-

The urine, therefore, [illegible] rotatory fermentable su[illegible] variety. The results of [illegible] that the glycosuria was [illegible] the pancreas, and the presence of many small calcium oxalate crystals in the centrifugalised deposit tended to confirm this conclusion. The pathological excess of urobilin pointed to there being a catarrhal condition of the biliary passages, which probably extended to the pancreatic ducts. The abnormal reaction for indican and the disturbed relation of the preformed to the conjugated sulphates suggested that both the pancreatic disease and cholangitis were connected with a catarrhal condition of the upper part of the intestinal tract. The absence of any trace of acetone or aceto-acetic acid showed that there were not the profound tissue changes met with in severe diabetes and rendered it probable that the pancreatic disease was of a slowly advancing type, such as, in my experience, is the common result of cirrhosis of the pancreas secondary to infection of the ducts. Although the specimen contained traces of albumin, the fairly normal critical solution point, the normal percentages of urea and inorganic salts, and the absence of casts or other evidence of renal mischief rendered it unlikely that there was any serious disease of the kidneys, while the presence of leucocytes and transitional epithelium suggested that it was not improbably of bladder origin.

The bowels were stated to be opened regularly every day, and there was neither diarrhœa nor constipation. A sample of the fæces submitted for examination gave the following results:—

[illegible], solid mass; reaction, amphoteric; [illegible] occult blood, *nil*. Microscopically, [illegible]rtly digested muscle fibres, some [illegible]globules;

Organic matter	86·7%	of the dry weight, normal	85–89%
Total fat...	16·6%	" " "	15–25%
Unsaponified fat...	8 6%	" " "	10–15%
Saponified fat	8·0%	" " "	10–15%
Organic matter not fat ...	70·1%	" " "	60–75%
Inorganic ash	13·8%	" " "	10–15%

The only striking variation from the normal was the large amount of partly digested muscle fibre found microscopically, but this was probably to be explained by the highly nitrogenous diet which the patient was taking. There was no marked excess of unabsorbed fat, nor was the relation between the saponified and unsaponified fats disturbed in the way that one might expect in serious disease of the pancreas. This, however, I have found in a considerable number of cases of glycosuria of undoubted pancreatic origin in which I have had the opportunity of examining the stools, and I have come to the conclusion that any marked interference with fat digestion is of serious prognostic significance and indicates that the patient is in the last stages of the disease. The absence of any trace of occult blood was against there being any malignant growth in the course of the gastro-intestinal tract, to which the pancreatic disease might be secondary.

As I have pointed out elsewhere,[1] I have been led to divide cases of pancreatic diabetes into three classes, according to the probable origin of the pancreatic affection:—(1) Those in which the morbid influence has reached the gland by way of the ducts; (2) those secondary to blood diseases or circulatory disturbances; and (3) those in which the diabetes has been induced by destruction of the pancreas by malignant growths. There was no evidence that the case under consideration fell under either the second or third head, while the urinary analysis suggested that it was associated with an infection of the pancreatic ducts and biliary passages.

Bearing in mind the history of typhoid fever, and the now well-recognised tendency of the typhoid bacillus to linger in the gall-bladder and bile-ducts, in some cases, long after the patient has quite recovered from the disease, it seemed to me possible that I had to do with a case of typhoidal pancreatitis going on to glycosuria, and that a bacteriological analysis of the fæces might throw further light on the condition. A portion of the fæcal material was taken with a sterile knife from the centre of the mass sent for examination, emulsified in sterile normal saline solution, plated on Drigalski and Conradi's medium, and incubated at 37° C. On being examined 24 hours later one of the six plates that had been inoculated showed two small, blue, finely granular colonies, with raised centres and filmy edges, suggesting bacillus typhosus. Sub-cultures were made from these on to agar-agar slopes and incubated at 37° C. for 24 hours; they then showed a thin, bluish-white, translucent film, that had not spread far from the needle track. Hanging-drop preparations showed actively motile rod-shaped bacilli. The bacilli did not stain by Gram's method, and cover-glass preparations stained by Van Ermengen's method showed that they were richly flagellate. Glucose-gelatine shake cultures showed no gas formation in 48 hours. Lactose litmus broth was not rendered acid and showed no gas formation. Litmus-milk cultures were not coagulated, nor was there any acid formation in 48 hours. Neutral red broth became turbid, but there was no film formation or colour change. Peptone salt cultures incubated at 37° C. for 48 hours gave no indol reaction. An emulsion of the bacilli in normal saline solution, prepared from a 24 hours agar culture, gave a similar reaction with a typhoid serum to a laboratory culture of bacillus typhosus. The fæces, therefore, contained a small number of bacilli having the appearance and characters of bacillus typhosus; a result which tended to confirm my surmise as to the probable origin of the disease.

Pancreatitis is not a common sequel of typhoid fever, and as yet there has been no reported instance in which glycosuria has developed as a result of typhoidal infection of the pancreas. The interval of ten years that had elapsed in this case between the original infection and the discovery of sugar in the urine, at first sight, made it a little difficult to believe that there could be any etiological relation between the two, but as the bacteriological examination of the stools showed that typhoid bacilli were still present, and there was evidence pointing to a focus of infection in the biliary passages and pancreatic ducts, it was not too much to assume that such a relation existed, and that the glycosuria was the direct outcome of slowly advancing changes in the pancreas set up by the persistent infection. Contrary to what has been generally taught, I have found that pancreatic diabetes is usually a mild and slowly advancing disease, often unattended by any marked symptoms for many years,[2] so that the absence of any physical signs and the latent character of the disease in this case did not surprise me but rather tended to confirm my view as to the cause of the glycosuria.

In the treatment of pancreatic diabetes it is essential to first determine the cause of the condition of the pancreas and endeavour so far as possible to control it. As it was highly probable that in this case the primary etiological factor was an infection of the pancreatic ducts and biliary system with typhoid bacilli advantage was taken of the results of the experiments by S. J. Crowe,[3] in which it was shown that hexamethylenetetramine (urotropine) given by the mouth to dogs is excreted in the bile and pancreatic juice in quantity and speedily sterilises the ducts that have been artificially infected with typhoid bacilli. Ten grains of this drug, with ten grains of sodium salicylate, which is also excreted in the bile and pancreatic juice, were therefore ordered to be taken three times a day in two ounces of water for three weeks, when it was suggested that the fæces and urine should be again examined. The second indication for treatment is to discover the patient's tolerance and powers of digestion for the various forms of sugar (particularly levulose and dextrose), starch, fat, and proteid, so that a diet may be arranged which, while it throws a minimum amount of work upon the pancreas and combats the glycosuria, may yet supply a sufficient quantity of nourishment to keep the patient in good condition. The only really satisfactory way of arriving at such a diet is to have the patient under observation in a nursing home or hospital for a short time so that the food may be accurately prescribed in weighed quantities and the effects of variations, with and without the addition of preparations of pancreas, can be determined by regular quantitative analyses of the urine and fæces. Such a procedure also has the advantage of educating the patient to a new mode of life and placing him in a much better position to take care of himself subsequently.

As this patient was obliged to return to America immediately after I had seen him I was only able to give him general directions as to his diet and mode of life, based upon my experience of similar cases, and suggest that he should consult his medical adviser in Chicago and get him to work out a diet chart suitable to his needs.

Beaumont-street, W.

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[1] Surgery, Gynecology, and Obstetrics, January, 1908, p. 22.

[2] The Pancreas, its Surgery and Pathology, by Mayo Robson and Cammidge, pp. 269 and 438.

[3] Johns Hopkins Hospital Bulletin, April, 1908, p. 109.

THE RELATION OF ACIDOSIS TO THE CARBON DIOXIDE OF THE BLOOD IN DIABETIC COMA.

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Dr. Pavy, in his lectures on the Pathology and Treatment of Diabetes Mellitus, criticised at some length, and adversely, the conclusions we had drawn from our observations on diabetic coma. He has brought forward no new facts and does not deny the accuracy of our observations, but disagrees with the view to which a consideration of the experiments made by ourselves and other workers has led us. The facts that are not in dispute may be briefly summarised as follows. Directly coma sets in the patient shows a well-marked hyperpnœa. The "alkalinity" of the blood—that is, its power of combining with acids—is reduced, and the [illegible] patient's blood is materially [illegible] such as sodium bicarbonate [illegible] injected into a vein the "alkalinity" of the blood and its carbon-dioxide content are increased, and the symptoms of coma may disappear, at least temporarily. When coma is imminent the patient's appetite becomes extremely poor, and during coma the metabolism of the body, as judged by the output of dextrose, nitrogen, and carbon dioxide, is greatly decreased.

The interpretation of these fundamental facts on which *Dr. Pavy insists is that which has been given by the majority* of observers ever since the classical experiments of Walter on the poisoning of animals by acids. According to this view, the prolonged acidosis of diabetes reduces the amount of base which is available in the blood and tissue fluids for combination with carbon dioxide; the blood therefore contains less carbon dioxide, and being unable to transport as much as should be removed from the tissues carbon dioxide begins to accumulate in them. In the case of the respiratory centre carbon dioxide is its normal stimulus, and, therefore, the centre is, at first, stimulated to greater activity. The accumulation, however, of carbon dioxide leads to a cessation of its production; and, as Dr. Pavy says, "death takes place when the non-removal has attained a sufficient height to reduce the occurrence of activity to a point which is no longer consistent with the continuance of life."

It is possible to draw from this view certain deductions which can be tested experimentally.

In the first place, so long as the body is alive it will continue to produce carbon dioxide. Whenever the blood is unable to remove it as fast as it is produced, carbon dioxide must accumulate in the tissues, and if it accumulates then its tension in the tissues must be raised; both of these deductions are *apparently admitted by Dr. Pavy.* Unfortunately, there is no method of estimating directly the carbon dioxide tension in the tissues; but it is generally assumed that the tension of carbon dioxide in the renal cells would not be raised without that in the urine being correspondingly increased. *We have shown that the tension of carbon dioxide* in the urine in diabetic coma is not raised.

In the second place, if the "alkalinity" of the blood begins to fall, and if carbon dioxide begins to accumulate at an increased tension in the tissues, the blood in the capillaries must be exposed to an increased tension of carbon dioxide. And although the reduced "alkalinity" of the blood might prevent its taking up a normal quantity of carbon dioxide, nevertheless such gas as the blood did take up would be under an *increased tension. The tension of the carbon dioxide in the blood can be either estimated directly* or deduced from an analysis of the alveolar air. By the former method we have found that it is at any rate not increased, and by the latter that it is, as a matter of fact, diminished even to a fifth of its normal value, and that this decrease is *greatest during coma, but is obvious for days both before and* after the coma.

In the third place, Dr. Pavy points out that if an alkali is injected into the blood the symptoms of coma cease temporarily; and this he explains by saying that the alkali has increased the power of the blood to combine with carbon dioxide. If this explanation of the good effect of alkali *were true, then, since the blood in the capillaries would* be exposed to carbon dioxide in quantities greater than it is capable of taking up, and at a tension above the normal, the venous blood, in addition to containing carbon dioxide at a tension above the normal, should be saturated with carbon dioxide for that abnormal tension. We have shown by direct experiment not only that the tension is not raised but that the blood is not saturated even for a tension of carbon dioxide below the normal. Further, if the arm of a *patient is bandaged for a sufficiently long time—such, for* instance, as two minutes—before the blood is drawn, the *carbon-dioxide content of the blood can be raised even* up to the normal. In fact, the blood in coma and the precomatose state can combine with very much more carbon dioxide than it actually contains, as will be seen by reference to our determinations.

These observations render untenable the view which is still advocated by Dr. Pavy, and which we ourselves held *until we began to work at the subject.* This view is based upon the assumption that the decrease of carbon dioxide in the blood is primarily due to the inability of the blood to combine with more carbon dioxide than it is found to contain. This we have shown to be untrue. Some other explanation of the fundamental facts of diabetic coma is necessary, and this we have already attempted to give.

Blood is both alkaline and acid in the sense that it can combine with acids and alkalies. Physico-chemical investigations upon the relative concentrations of acid and basic ions in blood show that in health its reaction is always roughly neutral, approaching that of distilled water. Strictly speaking, the reaction of blood is alkaline to such a slight degree that it may be referred to as being neutral. The *reaction of lymph, tissue-fluids, and protoplasm is presumed* to be the same as that of the blood. It is probable that the slightest disturbance of this chemical neutrality affects the metabolic activity of protoplasm, and that but a very little upset of the neutrality towards the acid side is incompatible with life. During metabolism carbon dioxide and other acids are continuously produced. In the case of distilled water, the least addition of carbon dioxide or other acid destroys its neutral reaction, but in the case of blood and protoplasm, owing to their carbonates, phosphates, and proteins, considerable quantities of carbon dioxide and other weak acids can be added without altering their reaction and destroying their neutrality. This power of the blood and protoplasm to combine with acids without change of chemical reaction has been *called by B. Moore "reactivity" to acids.*

During the prolonged and severe acidosis of diabetes the bases become combined with abnormal acids, and are no longer available to combine with the normal acid products of [illegible] "reactivity" to acids of the [illegible] On this account during [illegible] body would be imperilled [illegible] own metabolic products. The cells would be less capable of withstanding the acid *properties of their metabolites and would become more* sen[illegible]tion of all acid substances. In [illegible] the quantity and tension of car[illegible] progressively reduced, not, as we have shown, because the blood cannot take up more carbon *dioxide than it is found to contain*, but because the rising concentration of acid ions in the blood and protoplasm progressively affects the activities of cells. It has been shown by many observers that the quantity of carbon dioxide in blood under comparable conditions of experiment runs parallel with and may be taken practically as a measure of the power of the blood to neutralise acids. As the power of neutralising acid substances manufactured during metabolism progressively falls tissue activity correspondingly decreases, and less carbon dioxide and other acid substances are produced. Also, the respiratory centre is stimulated to greater activity and the hyperpnœa pumps carbon dioxide out of the blood. We have shown that the diminution of carbon dioxide in the blood is present for days before coma begins and lasts for *days after coma* has passed off. During coma this change is associated with a great increase of the total pulmonary ventilation and a great fall of the carbon dioxide in the alveolar air. We have suggested that the extreme diminution of the carbon dioxide in the blood in coma is in part due to the rapid removal of carbon dioxide by the hyperpnœa, an explanation which Dr. Pavy accepts. Before coma begins and after it has passed off there is still present a marked fall of carbon dioxide in the blood and alveolar air, but it is less in degree than in coma. Further, it may be present when the total pulmonary ventilation is low and cannot therefore be due to an excessive pumping of carbon dioxide out of the body. When such a patient is made to hold his breath, he is not able to stop breathing sufficiently long to raise the percentage of carbon dioxide in his alveolar air to the normal—that is, his respiratory centre owing to the acidosis reacts more readily to carbon dioxide. If he is given oxygen to breathe containing a percentage of carbon dioxide 2·5 per cent. greater than that in his alveolar air, he absorbs the carbon dioxide from the mixture into his blood. We conclude, therefore, that the low percentage of carbon dioxide in the patient's blood and alveolar air is due not to his blood being unable to take up more than it was found to contain, but to a diminished production of carbon dioxide by his tissues and to an increased sensitiveness of his respiratory centre to carbon dioxide.

We have, therefore, shown that in the precomatose and comatose states of diabetes the blood can take up more carbon dioxide than it contains and that there is not an accumulation of carbon dioxide in the tissues. Failing any other explanation, we conclude that the diminution of carbon dioxide in the blood is caused by a decreased production and by the hyperpnœa when present, and that both are alike caused by the acidosis. It is necessary to explain the onset of the hyperpnœa. Haldane and Priestley and others have shown that in health carbon dioxide is the chief stimulus to the respiratory centre. In diabetic coma, hyperpnœa begins and continues although the quantity and tension of carbon dioxide in the blood are low and there is no accumulation of carbon dioxide in the tissues. At first sight it is not obvious how in this case carbon dioxide could be an effective stimulus to the centre. If carbon dioxide could affect the centre only in virtue of a specific chemical action it could not be the stimulus in coma. We have shown that in diabetic coma the respiratory centre is not stimulated to greater activity, as it is in health, by a slight increase of carbon dioxide in the blood. A patient in coma was given air to breathe containing 2·6 per cent. more carbon dioxide than was in his alveolar air and the hyperpnœa was not increased. The same patient, three days' later, when he was conscious and his hyperpnœa had disappeared, was again given air to breathe containing 2·6 per cent. more carbon dioxide than was in his alveolar air, and his hyperpnœa returned at once. Carbon dioxide is also an acid substance, and although it may be the principal, it is by no means the only, acid substance produced even in normal metabolism, much less in severe diabetes. We therefore put forward the view that the effective stimulus to the respiratory centre in coma was the increasing concentration of unneutralised acid substances. Our view was expressed in these sentences: "It is suggested that the following process is taking place in the nerve cells of the medulla. The decreased 'reactivity' of the protoplasm of the cells due to the prolonged acidosis renders their reaction more easily disturbed by, and therefore makes them more sensitive to, the stimulating influence of any acid body, including carbon dioxide and other acids produced during metabolism." When criticising this view Dr. Pavy quotes against us the work of Haldane and Priestley, which indicates that in health the activity of the respiratory centre varies directly with the tension of carbon dioxide in the blood. Dr. Pavy therefore calls our explanation of the hyperpnœa in diabetic coma "vague, unsubstantiated, and extraneous." When Dr. Pavy wrote this criticism he was apparently unaware that Haldane, like other observers, had already maintained that carbon dioxide is not the only substance which stimulates the respiratory centre, and that in order to explain the regulation of respiration it is necessary to believe that even in health acid bodies other than carbon dioxide do stimulate the centre. This view was put forward originally by Pflüger, Geppert, and Zuntz, and has been amply confirmed by the recent work of Haldane, Pembrey, and others. In fact, our view of the cause of the hyperpnœa in coma is in strict accord with what is known of the regulation of respiration in health, and with the changes which take place in the body in severe diabetes. Similar changes will be taking place in all the other cells of the body, and we imagine that as the acidosis increases the metabolic activity of the tissues is thereby slowly and progressively diminished until consciousness, and finally life, is no longer possible.

Dr. Pavy in his lectures reaches several conclusions in regard to diabetes in general from which we strongly dissent. But we defer a consideration of the subject until the publication of our observations on diabetic patients, when we propose to raise the points in question.

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ON THE OPERATION OF CARDIOLYSIS: ILLUSTRATED BY A CASE.[1]

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THE operation of cardiolysis was first suggested in 1902 by Brauer and put in practice by Petersen—two names which to-day are associated with another and much more important advance in the surgery of the chest. The name cardiolysis is perhaps a little misleading, as it is at any rate more impressive than the surgically simple procedure to which it is given. It was pointed out by Brauer that in certain cases of adherent pericardium where the heart is embarrassed by fixation to the surrounding parts, a considerable amount of this overloading of the heart's action could be got rid of by rendering the præcordial part of the chest wall more flexible than normal by removing its bony and cartilaginous framework. No extensive separation of adhesions was suggested, and it is obvious that under the circumstances in which the operation has to be done such procedure would be very dangerous. In the first place the circulatory conditions are very unfavourable for prolonged general anæsthesia, while the risk of tearing the left pleura or even the heart wall would seem to be very great. The suggestion of Brauer was therefore *prima facie* an excellent one, and it obtained immediate practical justification in the operations done on his cases. The operation was extremely simple and short and the results were encouraging. Nevertheless, it seems to have been very little done. A review of the subject published in August, 1908, by Ernst Venus[2] gives a total of 17 cases, three of them being Braner's. The article contains a summary of all the cases and seems to be founded on a very complete study of the literature. There is no death recorded as the consequence of the operation, and the results appear on the whole to be very good.

In regard to the indications for operation there is a fairly general agreement amongst the various authors that those cases only are suitable in which the heart has shown some capacity for recovery under treatment by rest in bed. Clearly, if relief of the overloading of the heart is to be obtained by mobilisation of the præcordium, the capacity of the heart to recover must be demonstrable when the overloading is relieved by rest. It would seem then that the most suitable cases are those in which the heart is just inadequate for active life.

In all the published cases general anæsthesia seems to have been used, on the whole without much trouble. The operation need not last more than a few minutes and no very profound degree of anæsthesia is necessary, so that if the patient has been kept at rest for some time previously there seems no great objection to the use of chloroform. If it were necessary, however, to do the operation at a time when the heart was in an unsatisfactory condition there can be little doubt that a local anæsthetic should be preferred. As is well known, the chest wall can be very satisfactorily infiltrated with cocaine and adrenalin, and one has been able, for example, to open the pericardium very freely under it in a child with purulent pericarditis without causing pain.

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[1] A paper read before the Clinical Section of the Royal Society of Medicine on May 14th, 1909.

[2] Centralblatt fur die Grenzgebiete, Band xi., No. 14.

The technical details of the operation are very simple. A horseshoe-shaped flap should be marked out having its base above at the third rib and its apex at the seventh. The inner edge should be over the sternum and the outer in the region of the nipple line. The flap is turned up with the pectoralis and all the structures external to the ribs. The fourth and fifth ribs are those most commonly excised, but the extent of the rib resection will, of course, depend on what is found. A length of at least 3 or 4 inches of combined rib and cartilage must be removed. The third, the sixth, and even the seventh rib must also be dealt with if it appears necessary, and even the left edge of the sternum has been excised when the heart was obviously fixed to it.

There has been but one subject of disagreement in the matter of technique, and that is the question of the removal of the costal periosteum. Küttner, Danielsen, Leukenbach, and von Beck all insist on the importance of removing the whole periosteum of the resected ribs lest the mobilised part of the chest wall become rigid again. König, however, points out that this is extremely difficult to do, and has, in addition to the general disadvantage of prolonging the operation under circumstances where saving of time is very important, the special disadvantage that there is considerable risk of a wound being made in the left pleura. The latter, as is now well known, comes inwards normally as far as the left edge of the sternum and is by no means necessarily obliterated in these cases. He recommends, therefore, that the anterior periosteum only should be removed. That this is the proper course to follow and is not likely to lead to re-ossification is shown by a number of cases in which the præcordium has remained flexible for a long period, and especially by a case of König's, in which, two and a half years after the operation, the patient having died from general tuberculosis, a necropsy was made. It was shown that practically no ossification had occurred. The possibility of leaving the periosteum without damaging the usefulness of the treatment makes the operation still more simple and removes the only serious risk it could be supposed to have.

In the case reported at the end of this paper the fourth and fifth ribs were removed for a length of about 4 inches in front of the heart, the periosteum being left behind. The latter was obviously adherent to the front of the pericardium and pleura, and the extent to which it was drawn in and out by the tumultuously beating heart gave one a very clear idea as to how much the cardiac movements must have been hampered by the rigid chest wall.

So far as the general condition of our patient was concerned, he appeared to be a favourable case. He improved greatly with complete rest, but was quite unable to cope with exertion of the most ordinary kind. His general health and development were good, and his disposition was cheerful. There was no valvular lesion, and there were striking indications of mechanical embarrassment. Nevertheless, we felt then, as we feel now, that it is in reality a very difficult matter to gauge the condition of the myocardium. His improvement has been slow and we do not bring him forward as an example of a complete cure, far from it, but he is undoubtedly in a much better condition than he was, and we hope that with continued care he has not yet reached the limit of his progress. We would emphasise in particular the great improvement in the force and volume of his pulse and the diminution in the size of the spleen and liver and the degree of dropsy. On the other hand, it must be pointed out that the cantering cardiac rhythm is still present and the action irritable, as it is in some cases of "soldier's heart." We believe that the choice of suitable cases is not easy, and would in particular look with suspicion upon cases of multiple serositis in which there may be, so far as the heart is concerned, indication for this operation, but which from their tendency to show exacerbations and to spread from serous membrane to serous membrane, would probably not be favourably influenced by surgical interference.

The patient, a male, aged 16 years, was first admitted to University College Hospital on August 16th, 1908, and remained until Sept. 8th, under the care of Sir Thomas Barlow. He came to the hospital complaining of œdema of the legs and swelling of the face in the morning, which had come
months and had steadily

for

close attention. It
the operation, as if
ought, and that after
rosis. The patient's
mother brought alarmist accounts of him after his departure from the hospital, which led us to believe he was *in extremis* and enabled us to readmit him for a long period into the hospital.

ROYAL INSTITUTE OF PUBLIC HEALTH.—The Council has awarded the Harben gold medal for eminent services to the public health, which it is empowered to do triennially, to his Excellency Professor E. von Behring, M.D., Marburg, Germany, and has appointed Brevet-
M.B., R.A.M.C., Pro-
College, the Harben
Angelo Celli, M.D., Rome, the Harben lecturer for the year 1911. As already announced, the Harben lectures for 1909 will be delivered by Professor R. Pfeiffer, M.D., Breslau, in the lecture room of the institute on Monday, June 21st,
June, and Friday, June 25th, at 6 P.M.

PROPOSED INTERNATIONAL STANDARD FOR THE PHYSIOLOGICAL ASSAY OF THE HEART TONICS OF THE DIGITALIS SERIES.[1]

BY E. M. HOUGHTON, M.D. MICH. UNIV.

IT is a truism that therapeutic accuracy depends largely upon the uniform activity of the medicinal products at the disposal of the prescriber. Laboratory workers of the last quarter of a century have done much to point out the fallacies of empiricism and to devise ways and means for placing the practice of medicine on a more scientific basis. Much credit is due to the chemist for the development of methods of assay whereby the identity and purity of many of the most important medicinal substances may be determined, but it is becoming more and more clearly recognised that there are a number of much used drugs which are not amenable to chemical assay. The heart tonics of the digitalis group stand out conspicuously on account of their chemical properties, toxicity, and therapeutic importance as the chief representative of this class.

To Schmiedeberg, Fraser, Kiliani, and many other workers we are indebted for our knowledge of the chemistry of this group. It is not necessary to point out the many discrepancies that appear in the results of these workers, but owing to the variations in the properties of the crude drug as it appears on the market and the ease with which chemical decomposition takes place, it is impossible to reconcile these views and to accept them as final.

"We are not generally accustomed to think of the heart tonics as being the most poisonous remedies employed in therapeutics, yet it is true. According to some of the best authorities, the maximum dose of extract of digitalis is about one-half as great as the maximum dose of extract of belladonna, while strophanthin, the active principle of strophanthus, is three times as poisonous as atropine, ten times as poisonous as strychnine, and 12 times as poisonous as absolute hydrocyanic acid. It would be considered dangerous pharmaceutical practice to allow preparations containing atropine, strychnine, or hydrocyanic acid to be sold, without first being subjected to careful chemical assay and standardisation. The United States and other pharmacopœias give elaborate methods for the exact quantitative determination of these constituents; while, owing to the fact that the contained active principles of the heart tonics are glucosides, so easily decomposed by chemical manipulation that an assay cannot be made, no directions whatever are given for the determination of the physiologically active properties of the galenical preparations and the tests for the purity of the respective glucosides are of little value. Crude digitalis, strophanthus, &c., may be mixed to a greater or less extent with foreign material or inferior drugs when they come into the hands of the pharmacist or manufacturing chemist. By careful botanical examination the adulterating substance can be detected, and the advisability of garbling or rejecting the lot will depend upon the extent of impurities."[2]

During the autumn of 1896 I had occasion to test, by a method to be discussed later, four samples of strophanthin, "three of which were supposed to be chemically pure. There was found such wide variation in activity that one was 93 times as fatal as another; the strength of the remaining two varied between the above limits. No two samples were even approximately the same strength. What a chance for a sudden fatal termination of an apparently improving heart case!"[3]

Keller[4] concluded as the result of his researches that the therapeutic value of digitalis could be measured in terms of digitoxin, it being assumed that the other constituents were of so little value that they could be ignored. Without going into details, suffice it to say that in 1898 one of my assistants, a trained chemist, working upon known material, was unable to obtain results that would be considered of quantitative value, but was able to show, by determining the minimum fatal dose of the material for frogs, that reasonably constant results could be obtained by the physiological test (unpublished). These results were confirmed by Ziegenbein[5] by determining the minimum fatal dose for frogs and the digitoxin content. Likewise, Famulener and Lyons[6] arrived at the same conclusion from similar experiments. Barger and Shaw[7] showed that tinctures of digitalis were approximately from three to seven times as toxic as the digitoxin obtained from them. Focke and Fromme[8] were also unable to accept Keller's conclusions.

From these citations and others that could be referred to it is evident, since Keller's method has been looked upon as the most reliable chemical method proposed for digitalis (and the chemistry of the other heart tonics, with the exception of strophanthus, is still more involved), that chemical methods are insufficient for the valuation of the physiological activity of the heart tonics. Clinical experience and laboratory experiments have for generations shown that the variation in the activity of these drugs is very great. The age of the plant, method, and time of gathering and drying, preservation or storage, &c., all have more or less influence upon the active constituents contained.

In view of the many clinical observations showing the variation in the physiological activity of these preparations as they are dispensed for the treatment of patients; in view of the confirmation of these observations by numerous laboratory investigators using different methods of physiological assay for measuring such value; in view of the great importance that would accrue to science through the adoption of uniform methods; in view of the great toxicity of these compounds as compared with other and generally conceded deadly poisons which can be assayed by chemical methods; and, finally, in view of the impossibility of assaying these drugs by chemical methods, I believe that this section of the Congress should appoint a committee composed of not fewer than three members, who are actively engaged in pharmacological work, from each country desiring to participate, to consider before the next meeting of the Congress the different methods of physiological assay that have been proposed for measuring the value of the heart tonics, and to determine by exhaustive experiments upon animals the simplest and most reliable methods of assay, the precautions necessary to obtain uniform results, and the best method of expressing the results obtained in language intelligible to the practising physician.

There is no gainsaying that the Ehrlich method of assaying antidiphtheritic serum, which has been adopted by most civilised countries, has been of inestimable value in allowing physicians of all countries and languages to express and consider the results that have been obtained through the specific application of antidiphtheritic serum.

In America the subject of standardisation of antitetanic serum has recently been considered at length by a special committee appointed by the American Bacteriological Society for such purpose, and they were able to agree upon a method of assay for antitetanic serum that has been accepted by the United States Government, and which has brought about uniformity in strength of the serum prepared in that country. A different method is employed in Germany, and none at all, I believe, in Italy, France, England, and other countries. How much better it would have been for the subject to have been settled by an international committee, such as is proposed for the investigation of the proper methods of assay for the heart tonics. Such a committee, working together for the purpose of determining from a practical scientific basis the best and simplest method of assaying and expressing the value of these products to the therapeutist, would accomplish work of world-wide importance to science and to humanity. It is unnecessary to dwell longer on the matter, as the truth is *self-evident*.

For consideration I desire to present a method more or less modified that has for nearly 15 years been in almost daily use in the laboratory under my supervision. As a matter of history it may be *stated* that the first experiments were made in the autumn of 1894, the method itself being suggested by Professor Ehrlich's results obtained by testing antidiphtheritic serum.

The method was first published in a paper entitled "The Pharmacological Assay of the Heart Tonics," which was read before the Section on Materia Medica, Pharmacy and Therapeutics of the American Medical Association, June 7th-10th, 1898, and in which a detailed method of assay for the preparations of strophanthus was given as follows:—

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[1] [illegible] read before the Pharmaceutical Chemistry Section of the [illegible] Congress of Applied Chemistry on May 31st, 1909.

[2] Houghton: American Medical Association, June 9th, 1898.

[3] Journal of the American Medical Association, April 3rd, 1897.

[4] Berichte der Deutschen Pharmischen Gesellschaft, 1897.

[5] Archiv der Pharmacie, 1902.

[6] Proceedings of the American Pharmacological Association, 1902.

[7] Pharmaceutical Journal, 1904.

[8] Deutsche Aerzte-Zeitung, 1904.

[illegible]

is best, when one has [illegible] the frogs separated [illegible] over three grammes; [illegible] for strophanthin, th[illegible] strophanthus, those weighing 18 to 21 grammes for tincture digitalis, &c. Frogs weighing less than 30 grammes can be obtained at a very reasonable price from fishermen, as they are too small for the table. However, it is necessary that from the moment of capture they be handled with great care and kept in wet moss, &c., until they arrive at the laboratory, when they should be at once transferred to suitable ponds.

The method of administering the poisons and observing results may [illegible] ac. Great [illegible] ill allow a [illegible] the frogs [illegible] containing about a quarter of an inch of water. It will be necessary to inject several series of about five frogs each for each sample of the drug to be assayed, a first series to be injected with drug of known standard strength. After testing a large number of tinctures of strophanthus I found that 0·00015 c.c. per gramme body weight represented fairly well the toxic activities of an average sample of tincture prepared from strophanthus (Kombé). The minimum fatal doses of tinctures of strophanthus prepared from various lots of drug obtained from the American market were found to be as follows:—

1	0·00015	8	0·00015
2	0·00026	9	0·00022
3	0·00015	10	0·00017
4	0·00012	11	0·00016
5	0·00013	12	0·00015
6	0·00015	13	0·00025
7	0·00010	14	0·00033

The several tinctures were prepared by one process and with the same menstruum.

[illegible]

greater.

[illegible]

	Minimum fatal dose.
July 6th, 1897	0·00015
Oct. 19th, 1897	0·00015+
Dec. 23rd, 1897	0·00015
Feb 23rd, 1898	0·00015+
April 25th, 1898	0·00015

The loss in strength was so little in nearly one year that it came within the limits of error. Similar results are observed in regard to the permanence of a concentrated tincture of strophanthus.

Observations continued since the above was written 11 years ago have [illegible] whe[illegible] Thi[illegible] parations, as our experiments show quite conclusively that there is a loss in activity from month to month, even though [illegible] exceeding care.

[illegible] the potency of the standard preparation of strophanthus, great care was exercised in the selection of the frogs for the purpose in order to have those of as nearly uniform resistance as could be obtained. Likewise, a large number of frogs were used in making the several assays. I have not had occasion since 1898 materially to change the details of the method of making the assay or deriving standards for the other heart tonics.[9]

The application of the method may be briefly described as follows.

1. *Rules to be observed in order to obtain the most accurate results.*—The reaction chosen as a measure should be the most constant and characteristic obtainable for each given drug. The kind of animal chosen for making the observation [illegible] on is most clearly dis[illegible] making a test should be [illegible] as possible from one another in weight, temperament, &c., in order that the resistance of the several animals employed for making a test shall be as uniform as possible. The animals employed for the experiments should be kept under identically the same conditions just before and while the experiments are being made: the same food, the same degree of temperature, &c. In making a quantitative assay the strength of the unknown should be compared with the strength of a standard preparation of the same drug, the assay of both being made at the same time, and the conditions of the experiments being precisely the same in both cases. The standard adopted must possess the pharmacological activity of an average preparation. This standard is obtained by mixing equal parts of not less than ten lots of the preparation derived from the same number of lots of crude drug, which have been determined to be of first-class quality by physical and botanical examination. The action of the drug being assayed should, if possible, be compared with the action of the standard upon the same animal, and in those cases where this cannot be done a sufficient number of animals of as nearly uniform resistance as possible should be employed to rule out any individual idiosyncrasy.

2. *Apparatus.*—Small wire frog baskets with legs and covers or frog glasses and plates will do, care being taken not to set the baskets too deeply in water and not to fill the plates sufficiently full of water to drown the animals. The water should cover the bottom of the baskets or plates about one-fourth inch. Small balance for weighing the frogs. Volumetric flasks for diluting the preparations to be assayed, and glass pipettes, graduated into hundredths of a cubic centimetre, with long narrow points, or better, supplied with needle-points for injecting the frogs.

3. The strength of the preparation being assayed is to be compared with the strength of the standard, the two being tested at the same time and under the same conditions. (See directions already given for the assay of tincture of strophanthus.) The standard is obtained according to the method outlined in the general remarks, which is an average sample of the preparation made from first-class crude drug. 1 cubic centimetre or gramme of the preparation to be assayed is diluted with normal saline solution to make the dilution such that the amount to be injected into each frog shall be about 0·5 cubic centimetre, the same care being exercised in making the solution as would be in making up volumetric solutions for chemical assay. The frogs, which are of the same species and have been kept under the same conditions, are weighed and the weights recorded, the frogs being marked so that they can be readily identified. The frogs should not differ more than 3 grammes in weight, but may be of any size, the aim being to have the resistance uniform. It will be necessary to inject several series of frogs approximately as follows:—

FIRST SERIES.—A *Frogs Injected with Standard.*

Number of frogs.	Weight of frogs.	Amount of tincture injected per gramme body weight.	Result at end of 12 hours.
1	15 grammes.	0·0001	Alive.
2	16 "	0·00015	"
3	15 "	0·0002	Dead.
4	17 "	0·00025	"

The killing dose is between 0·00015 and 0·0002.

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[9] An article by the writer on Physiological Testing was published in the last two editions of the National Standard Dispensatory.

B. *Frogs Injected with Tincture to be Assayed.*

Number of frogs.	Weight of frogs.	Amount of tincture injected per gramme body-weight.	Result at end of 12 hours.
1	16 grammes.	0·0001	Alive.
2	15 ,,	0·00015	,,
3	17 ,,	0·0002	,,
4	15 ,,	0·00025	Dead.

The killing dose is between 0·0002 and 0·00025.

SECOND SERIES.

A. *Standard.*

Number of frogs.	Weight of frogs.	Amount of tincture injected per gramme body-weight.	Result at end of 12 hours.
1	15 grammes.	0·00015	Alive.
2	16 ,,	0·00016	Dead.
3	15 ,,	0·00017	,,
4	17 ,,	0·00018	,,
5	16 ,,	0·00019	,,

The killing dose is between 0·00015 and 0·00016.

B. *Tincture being Assayed.*

Number of frogs.	Weight of frogs.	Amount of tincture injected per gramme body-weight.	Result at end of 12 hours.
1	16 grammes.	0·0002	Alive.
2	15 ,,	0·00021	,,
3	15 ,,	0·00022	Dead.
4	16 ,,	0·00023	,,
5	17 ,,	0·00024	,,

The killing dose is between 0·00021 and 0·00022.

THIRD SERIES.

A. *Standard.*

Number of frogs.	Weight of frogs.	Amount of tincture injected per gramme body-weight.	Result at end of 12 hours.
1	15 grammes.	0·00016	Alive.
2	16 ,,	0·00016	Dead.
3	16 ,,	0·00016	,,
4	17 ,,	0·00016	,,
5	16 ,,	0·00016	Alive.

Minimum fatal dose 0·00016.

B. *Tincture being Assayed.*

Number of frogs.	Weight of frogs.	Amount of tincture injected per gramme body-weight.	Result at end of 12 hours.
1	16 grammes.	0·00022	Dead.
2	17 ,,	0·00022	,,
3	15 ,,	0·00022	Alive.
4	17 ,,	0·00022	Dead.
5	16 ,,	0·00022	Alive.

Minimum fatal dose 0·00022.

It will be observed in the above illustration that the minimum fatal dose for the standard tincture of strophanthus was a little larger than that which had been previously adopted, but, in arriving at the percentage value of the tincture, proper correction is made for this variation from the standard by the figures used.

According to the results obtained from the injection of the three series of frogs, 0·00016 cubic centimetre of the standard tincture has the same killing power as 0·00022 cubic centimetre of the tincture being assayed. Hence, the tincture possesses a strength of $\frac{0\cdot00016}{0\cdot00022} = \frac{16}{22} = 72$ + per cent. of standard.

Experience has shown that the figures given in the following list indicate what may be taken as a tentative standard for the several preparations mentioned.

	Minimum fatal dose per gramme body weight.
Digitalis, fluid extract, U.S.P., 1890	0·0015
,, solid extract	0·0005
,, powdered extract	0·0005
,, tincture, U.S.P., 1900	0·015
,, digitalin (German)	0·00005
Squill, fluid extract, U.S.P., 1890	0·0012
Strophanthus, tincture, U.S.P., 1900	0·000075
Convallaria, fluid extract of rhizome and roots, U.S.P., 1900	0·00025
,, ,, ,, herb	0·00015
,, ,, ,, flowers	0·00009

These figures were derived in a manner similar to that used for the derivation of the minimum fatal dose for the standard tincture of strophanthus, as previously stated. Reference to the following synopses dealing with strophanthus, digitalis, squill, and convallaria shows how accurately these figures correspond with the results obtained in routine practice in a large manufacturing laboratory. The averages indicate the actual results obtained on all the samples of the preparations tested since the year 1901. The records for the previous five years were unfortunately destroyed in a fire that we had in our laboratory in 1903, consequently the figures for that period are not available. It should be observed that the figure for the standard tincture of strophanthus was given in the paper published in 1898, and that it closely approximates with those derived from the assay of 134 samples of tincture of strophanthus tested, as stated, since the year 1901.

SYNOPSES OF RESULTS.

Tincture of Strophanthus, U.S.P., 1890 (5 per cent.).

—	M.F.D.	Units.
Standard adopted in 1897	0·00015	6666
Revised standard subsequently adopted... ...	0·00016	6250
Average for 134 samples tested since 1901 ...	0·000167	5985

Fluid Extract of Digitalis.

—	M.F.D.	Units.
Standard adopted in 1898	0·0015	666
Average for 83 samples tested since 1901 ...	0·00142	701

Fluid Extract of Squill.

—	M.F.D.	Units.
Standard adopted in 1901	0·0012	833
Average for 61 samples tested since 1901 ...	0·00123	807

Fluid Extract of Convallaria (Rhizome and Roots).

—	M.F.D.	Units.
Standard adopted in 1900	0·00025	4000
Average for 30 samples tested since 1901 ...	0·000245	4067

A further development of this method of assay has convinced me that it would be important to adopt "a heart tonic unit" as a means of expressing the physiological values, the number of such units to be derived directly from the minimum fatal dose of the given preparation. A convenient unit is obtained by dividing one by the minimum fatal dose per gramme body-weight of frog; or, in other words, the number of units will be the reciprocal of the minimum fatal dose. To illustrate: if the minimum fatal dose of a given drug per gramme body-weight of frog is found to be equivalent to 0·01, then the given substance, *assuming that* it belongs to the group of heart tonics, would contain 100 heart tonic units: (m.f.d. $\frac{1}{0\cdot 01}$ = 100 h.t.u.) This rule can be applied to any of the heart tonics as a means of expressing such values in whole numbers.

Instead of stating the full number of heart tonic units in all cases round numbers can be used, which do not vary more than a given per cent. from the actual number of units. Reference to *tables shows* what *may* be *accomplished*.

A correction will be necessary where the minimum fatal dose of the standard is more or less than that mentioned in [illegible] such correction to [illegible] According to the [illegible] ndard divided by the minimum fatal dose of unknown

$$\left(\frac{\text{m.f.d. of standard}}{\text{m.f.d. of unknown}} = \text{per cent. of standard}\right)$$

equals the percentage value of unknown. The percentage value of the unknown can easily be converted back into the normal minimum fatal dose as shown below.

M.F.D.	Exact H.T.U.	Approximate H.T.U.	% error.
0·0001	10000	10000	0
0·0002	5000	5000	0
0·0003	3333	3330	0·9
0·0004	2500	2500	0
0·0005	2000	2000	0
0·0006	1666	1660	0·4
0·0007	1428	1430	0·1
0·0008	1250	1250	0
0·0009	1111	1110	0·1
0·0010	1000	1000	0
0·0011	909	910	0·1
0·0012	833	830	0·3
0·0013	769	770	0·1
0·0014	714	710	0·5
0·0015	666	660	0·9
0·0016	625	620	0·8
0·0017	588	590	0·3
0·0018	555	550	0·2
0·0019	526	520	1·1
0·0020	500	500	0
0·0100	100	100	0

M.F.D. = minimum fatal dose per gramme body-weight of frog.
H.T.U. = heart tonic units.

In actual practice a table can be constructed similar *to the above for all the values that will be derived in* the testing of the heart tonics under all conditions. These may be printed on a sheet or sheets of paper and kept for reference in a book form or placed on a chart to hang on the wall of the operation room and used in the same manner as interest or logarithm tables. Such practice would obviate entirely the necessity for the person doing the testing to make mathematical computations unless a correction would be needed, in order to convert an abnormal minimum fatal dose into a *normal minimum fatal dose*. These variations also can be worked out and converted into tables.

Conclusions.—1. It has been shown by numerous laboratory workers that it is impossible to determine the value of the heart tonics of the digitalis series by chemical assays. 2. *It is a well-recognised fact that the toxicity of these* products warrants that every effort should be made to present preparations of them of as uniform value as possible. 3. Experiments upon animals have demonstrated conclusively that the variation in the physiological action of some of these products is extremely great. 4. It is urged that this section appoint an international committee to determine and recommend the best method of physiological assay of the heart tonics of the digitalis series and an international standard, "heart tonic unit," to express the physiological value of the pharmaceutical products of this series. 5. The author puts forth the above method of physiological assay, which is the result of nearly 15 years of *laboratory study, for consideration* as a possible solution of this problem.

Detroit, Michigan, U.S.A.

RUPTURE OF THE SPLEEN; REMOVAL; RECOVERY.

BY T. S. LUKIS, M.B.

THE patient, a schoolboy, aged seven years, was admitted into St. Bartholomew's Hospital under the care of Mr. D'Arcy Power on May 12th, 1908, at 10.30 P.M., having been run over by a van weighing two tons. It was alleged that the wheels passed right across the boy's abdomen.

On admission the patient was collapsed; his face was pale, his lips were blue, and his body was cold and clammy. He had *passed fæces* and urine under him, but *no blood*. He was very restless, turning about, and preferring to lie on his face. His pulse was 140 and irregular, the temperature was 96° F., and the respirations were shallow, numbering 34. An examination revealed some bruising of the left side of the chest and abdomen. There was a graze on the left side of the chest over the ninth, tenth, and eleventh ribs and another graze on the abdomen just above the anterior superior iliac spine. The appearance suggested that the wheels did not pass right over the abdomen, but merely grazed the left side of it. The abdomen was tender, rigid, and resonant all over and moved very little with respiration. The child complained of pain, especially in the left lumbar region. No free fluid and nothing abnormal *could be felt in the abdomen. Mr. G. E. Gask saw the case* and decided not to operate, the condition of the child being unfavourable.

The patient was very restless all night. His pulse kept at 140 and was irregular. His temperature rose to 97°. He [illegible] free from blood and he vomited [illegible] e pulse became much worse and [illegible] abdomen was much distended but the distension was partially relieved by an enema at 8 A.M. *For the rest of the day until* 5 P.M. the pulse could not be felt, but it then returned to 130 and the patient seemed much better, his colour improving.

On the following day Mr. D'Arcy Power decided to operate, the general condition of the child having improved greatly. At *3.30* P.M. chloroform was administered and a vertical incision was made 3½ inches long through the left rectus muscle above the umbilicus, 1½ inches from the middle line. The peritoneal cavity was opened and was found to contain a quantity of blood-clot and blood which was washed out with saline solution at a temperature of 110°. The anterior surface of the left lobe of the liver was found to be grazed over an area of about the size of a crown-piece, but had stopped bleeding. The spleen was *drawn out of the wound and was found to* be badly lacerated, the lower third [illegible] rest, and there [illegible] hilum. The or[illegible] mesentery which ruptured when an attempt was made to ligature it. *As bleeding had also stopped in the spleen*, some of the arteries of which were very definitely thrombosed, [illegible] ligature the pedicle. The [illegible] ning had never been very [illegible] inage tube was left in the wound to be an index of possible further hæmorrhage. The child came through the operation very well, and there was no further extensive hæmorrhage, the drainage tube being removed on the sixth day, when the pulse had quieted down to 100. *The patient* made an uneventful recovery.

The points of interest in the case are. First, that a delay in operating, amounting to 42 hours, did not prejudice the patient's chance of recovery, but probably saved his life. Mr. G. S. Simpson, in an article in THE LANCET of August 11th, 1906, *mentioned* that of 28 cases of ruptured spleen which he had collected three operated on within two

APHASIA SUCCEEDED BY JACKSONIAN EPILEPSY; OPERATION; RECOVERY.

BY W. ALEXANDER, M.D. R.U.I., F.R.C.S. ENG.,
VISITING SURGEON TO THE LIVERPOOL WORKHOUSE HOSPITAL.

A MAN, aged 33 years, was admitted to the Liverpool Workhouse Asylum Ward on Nov. 4th, 1908, with a certificate of insanity. He was brought to the hospital by a police constable, who had found him lying in a doorway in a nude condition. On examining him in the asylum next morning it was found that it was aphasia and not insanity that he was suffering from, and he was transferred to the medical wards. He understood what was said to him, and could assent to, or dissent from, any statement by nodding or shaking his head. The pupils were equal, there was no facial paralysis, but partial loss of power of the right hand and arm (the hand lay in a semi-flexed position). There was also some athetosis. On the 8th the condition was unaltered except that the fingers of the right hand had become more flexed and the athetosis had ceased. A firm depressed scar was visible on the scalp over the left anterior parietal region, the scalp moved freely, and the bone was not apparently injured. He remained in this condition till the 9th. The man with whom he lodged called on Nov. 8th and said the patient was often the worse for drink, that on the night in question (Nov. 1st) he was quarrelsome, had called his wife names, and had been turned out of doors in consequence. He did not think the patient could not speak; he was noisy. He could not say how the patient passed his time from Nov. 1st to Nov. 4th, the day of admission to asylum. At 5.30 A.M. of the 9th the patient had a right-sided epileptiform attack affecting the arm, afterwards the leg and face, with only slight loss of consciousness. When the twitching of the right hand began the patient was quite conscious, but as the attack proceeded he gradually became unconscious. He had another fit in the evening of the same day at 11.30. On the 10th the patient had three similar fits during the day. On the 11th he had 20 fits and was very exhausted, the pulse-rate increasing and the pulse becoming feebler. An epileptic mixture containing bromide of potassium was prescribed. On the 12th he had six fits in an hour. He was transferred to the surgical ward at 2.30, as the fits still continued and the patient became feebler. The skull was trephined over the left motor area. A rectangular piece of bone, three inches by two inches, was removed. The dura mater was normal and was opened by four slits, each extending right across the breadth of the opening in the bones. This permitted the cerebral convolutions to be easily examined over the greater part of the motor area. At the posterior extremity of the third left frontal convolution a conical elevation could be distinctly seen. The cone was formed of apparently healthy brain substance. The needle of an exploring syringe was passed into the apex and a full measure (one drachm) of clear fluid was withdrawn. A pair of closed sinus forceps were then passed along the needle of the syringe into the cavity, and on separating the blades rather more than half an ounce of fluid came away. The veins of the pia mater were congested, and along each side of the veins broad areas of whitish flocculent œdema were seen. Pricking the œdematous area gave vent to drops and spurts of clear fluid. The flaps and fenestrated dura mater were now bathed with normal warm saline solution and the flaps replaced and stitched up with silkworm gut. A small glass drainage tube was placed for 48 hours in the posterior angle of the wound. The head was well enveloped in sterile gauze and cotton wool. Not a single vessel had to be tied from start to finish of the operation, and no ligature of any kind was left beneath the replaced flaps. The bone removed was not replaced.

After operation the patient was rather restless, but at 10.30 P.M. he went to sleep and slept until 4 A.M., when, according to the nurse, he had a fit lasting two minutes. He then slept again and awoke at 7.30 A.M. On Nov. 13th he had a comfortable day, sleeping a good part of his time. After awaking from sleep in the afternoon he had two fits, one at 3.30 and one at 3.40. He could now move the flexed fingers of his right hand just a little. On the 14th he had a good night, with no fits. He could now say "yes" and "no" and a few other single words, but could not carry on a conversation. The head was dressed and the drainage-tube was removed, some clear fluid coming from it. He slept and dozed the greater part of the day. On the 15th he had slept well all night with no fits. He asked for what he wanted by signs and said a few words; he could also open the right hand and grasp with it. On the 20th he continued to improve; there were no fits; he could now carry on a conversation, though with difficulty. He told us that his name was ——, aged 33 years, a dock-labourer, that he was born in Liverpool, that his parents were dead, but that a brother and two sisters were alive. He could count up to 20, but always missed 18. By the 24th the patient could talk much better; there were no fits. He stated that the scar on his scalp was caused by a piece of coal falling on his head 16 years ago, when he was a miner at Wigan. He never had any fits before his admission to the hospital. He admitted having taken occasionally one or two glasses of whisky, but was not in the habit of getting drunk. He remembered the lodging-housekeeper putting him out on the street on Nov. 1st, but did not remember anything afterwards until he found himself in the male asylum, where male nurses attended him. He also remembered coming to hospital, where there were female nurses. The three days—Nov. 1st to Nov. 4th—are a blank to him. On Nov. 26th the stitches were removed. The wound healed by first intention and without pyrexia. On Dec. 4th the patient was allowed to get out of bed. There were no fits; the paralysis and aphasia were quite gone. He could count up to 20 without omitting any numbers. On the 16th he went out at his own request. On Feb. 5th he came to report himself. He had been working at the docks and could do a good day's work. There were no signs of any defect about him and he said he obtained jobs just as well as any other man, so that evidently no defect was noticed in the man by the agents of the employers who engage the men.

There are several points of interest in this case. The preliminary diagnosis of insanity was probably made in difficult circumstances, and was no doubt due to the history of violent conduct produced by drink and to his mute condition. The mutism of insanity and the inability to speak of aphasia are very different things and not likely to be mistaken for each other provided we are enabled to have a look at the eyes of the patient. A partially drunk aphasiac would make an error quite possible, but when he was sober there could be no doubt about the matter. It is also clear from the history, which was, however, very imperfect, that the aphasia came on between Nov. 1st and Nov. 4th, the night of his admission. He was quarrelling with his wife that night, and in consequence was turned out of the house in his night attire. From Nov. 1st to Nov. 4th is a blank to him and to us. The cyst, if cyst it was, or rather collection of fluid, must have formed or increased very rapidly during the three days to produce the aphasia and the paralysis. An aphasiac cannot very well quarrel, and he was probably not aphasic on Nov. 1st, and possibly the excitement and the drink or the "chucking-out" had something to do with the onset of aphasia soon after the quarrel. The cavity, when the fluid was removed, had no very distinct walls. We opened it up freely, but for obvious reasons we could not examine it so thoroughly as to be sure of its exact nature, since the patient was in a critical state and time was of the greatest importance. It was not in the ventricle, as it was near the surface and the cavity was limited in its extent. It seemed to be one of those adventitious collections of fluid that occur mysteriously in the tissues, and which form cysts in time by the pressure of their contents upon the periphery of the fluid effusion. In this case the effusion was too recent to permit the formation of any distinct cyst wall. We may ascribe the aphasia and the paralysis to the cyst. It was interesting to notice that the whitish flocculent œdema that is seen so frequently in operations on true epilepsy was present in the case. I am so familiar with œdema in our operations on epilepsy that I did not altogether expect to find it in this Jacksonian variety. That epilepsy is probably due to circulatory disturbance is now fairly extensively believed, and in this case the formation of the quasi cyst was in itself a circulatory disturbance. The *modus operandi* was also influenced by circulatory considerations, to which this successful case gives a considerable amount of support, but the questions are too large to discuss further on this opportunity.

Liverpool.

A CASE OF CATALEPSY OCCURRING IN A BOY AGED 15 YEARS.

BY DONALD E. CORE, M.B., CH.B. VICT.,
RESIDENT MEDICAL OFFICER, BARNES CONVALESCENT HOSPITAL, CHEADLE.

THE patient was brought into the out-patient department of the Derbyshire Royal Infirmary with a history of having had three "fits" during the preceding six weeks. Up to that time he had been perfectly healthy, and there was no evidence of his having had fits or convulsions during infancy. His previous medical history was good, but he appears to have been very backward while at school. His father at the time of his admission stated that in these fits the boy had first become very stiff for a short time and then jerked himself about, but had never fallen, as there had always been time to recognise what was about to happen and to get the boy into a chair. There had not been any passing of urine in these attacks, neither had he ever bitten his tongue. There was no history of fits of any kind in any other member of the family. The last fit occurred some two weeks before the patient was first seen, and was apparently followed by a state of stupor, in which the boy would not feed himself, and had to be made to pass his urine. Once his attention was drawn to his necessities, however, he passed it himself naturally. Otherwise he had been in a condition of blankness, and it was for this condition that he was brought into the hospital.

When first seen the boy was in an absolutely passive condition. He allowed his limbs to be put into any position, and made no attempt either to resist or to alter their attitude. The extremities could be moulded into positions as if they had been made of wax. He was, however, alive to painful stimuli, and resented pinpricks by frowning and finally by turning his body away from the stimulus. The only muscles which were active were those of the eyes; these were moved voluntarily, and the patient watched proceedings with interest. The general condition was very good, the boy being well grown and with remarkably well-developed muscles.

Nervous system.—Motor: Active movements, with the exception of the ocular muscles, were in entire abeyance. The legs and arms could be put into any position without the least resistance, and they were maintained in these attitudes until, the weight of the limbs overcoming the muscular strength, they slowly dropped. Thus, the arms being erected over the head, they remained in this position for over a quarter of an hour. Then they began to sway, and the excursions becoming wider and wider they finally lay by the side. The legs fell more quickly, being exhausted in from five to ten minutes. After the sensory system had been investigated by the use of a pinpoint the passivity of the limbs lessened, and very considerable strength was manifested. There were no tremors and no evidence of any head retraction. The boy on admission was able to stand, but would make no attempt to walk. He had to be led about as though he were blind. The muscular tone was normal. Sensory: There was much resentment displayed to painful stimuli. In most cases this was manifested by a screwing up of the facial muscles. Reflexes: The knee-jerks were present and normal. Ankle clonus was absent on both sides; Babinski's reflex was similarly absent on both sides. The superficial reflexes were present and active. Bladder and rectum: There were incontinence of urine and marked constipation. Special senses: There was no nystagmus. The right pupil was slightly larger than the left. The discs were normal. The pupils reacted normally. On his admission it was impossible to say whether he was able to hear or not. He took no notice of anything that was said to him. Mental: Entire negativism, altering occasionally to a state of anger. There was no evidence of any cerebral irritation. Speech: Absent. There were no trophic lesions of any kind present on his body. The heart, lungs, and abdominal organs were normal.

The boy would not feed himself and had to be spoonfed. Shortly after his admission he would not swallow what was put into his mouth, and he had to be nasal-fed. After the first meal given in this way, he took his food perfectly well if it was placed in his mouth. On the eighth day of his stay in the hospital he developed a very slight but quite definite squint, the left internal rectus apparently being at fault. This, after varying from day to day, disappeared within a week of its appearance.

The boy was treated with galvanism and massage, and although at the time of application he seemed to improve, he remained in the state described for over 16 weeks. During this period he never, apart from electrical stimulation, made a single voluntary movement. He lay on his back staring at the ceiling and generally soaked in urine. While being galvanised he turned himself about in order to evade the battery, and on several occasions shouted out, but as soon as the current was taken off he relapsed into his former state. Some ten weeks after his admission contractures of the fingers made their appearance, and any effort to extend them met with the most violent resistance. This was followed by flexion of the legs on the thighs, and of the thighs on the trunk, but the mental condition remained just as it was, and the limbs when straightened could be moulded in the same way as when he was first seen.

Sixteen weeks after his admission the boy was suddenly heard singing in the night, and shortly after he spoke a few words apart from electrical stimulation. From this time he recovered rapidly, but for some time after he was able to feed himself and to speak his muscles were in their original state of waxy flexibility. Thus after having been given a plate of rice and a spoon he would sit and stare at the food without making the least attempt to eat it. Then when some was lifted into his mouth he would start feeding himself and would continue to raise the spoon to his mouth long after the plate was empty. When told to stop he would slowly obey. If he was questioned, he would at first make no effort to answer, neither would he look at the questioner, but after a long pause he would in a peculiarly monotonous tone reply. This transition state rapidly passed off, and the boy became what was probably his normal condition. This was one of irritating stupidity, mingled with a low degree of cunning. He was intensely disobedient and stole consistently from the other patients in the ward. He had no idea of decency, and would get out of bed the moment the nurse's back was turned, and, taking off his clothes, would run about the ward naked. He was able to read and write and to work out simple arithmetical problems. He was sent to the Derby Infirmary Convalescent Home, where he stayed three weeks.

The temperature throughout the whole period of his stay in the hospital was normal. There was never any albuminuria.

My reasons in publishing this case are its rarity and the duration of the condition. When he was first seen the question raised was whether he had not some meningeal trouble, and this was made all the more probable by the inequality of the pupils and the squint. There was never any elevation of the temperature, and the pulse was always perfectly normal. There were no signs of any cerebral trouble, and a diagnosis of hysteria was made. This was confirmed by the appearances of the contractures. A diagnosis discussed was one of post-epileptic stupor, but the length of time which had elapsed between the last fit and his admission, 14 days, put this out of the question. Then again, the fits were not perfectly typical of epilepsy.

Of the many hysterical manifestations the case conformed most closely to that known as catalepsy. This state nowadays is considered to be almost always hysterical, although Whitla in his recent text-book says that it may be associated with such diseases as meningitis and melancholia. Osler, Fagge and Pye-Smith, and Savill all agree in regarding it as purely hysterical. Kraepelin, on the other hand, looks upon catalepsy as a symptom more or less synonymous with "flexibilitas cerea," and considers it characteristic of dementia præcox. Maurice Craig, under the heading of "Catatonic Stupor," describes the following condition associated with mental depression, delusions, and hallucinations: a markedly resistant condition of the muscles, which, [illegible] geration.

Dr. Hack Tuke, in Allbutt's "System of Medicine," states that catalepsy may be a condition *per se*, or it may be associated with mental symptoms. He describes a case which resembles the one above as belonging to the former class. In his opinion it is a rare condition and one which almost always affects young females. The onset is generally ascribed to mental shock of some sort and the symptoms come on suddenly. In the case I have just described there were no mental symptoms of the nature of delusions or hallucinations. The boy was certainly mischievous and remarkably unintelligent, but he did not differ in these respects from many boys of whose mental health there is no doubt. Dr. Hack Tuke further remarks that the memory for events which have occurred during the attack may or may not be impaired. In my case many small details of ward discipline and also fragments of conversation which had been spoken at his bedside during the stage of negativism were remembered with the greatest clearness.

The pathology of these cases is uncertain. The immediate factor at fault is the motor inhibitive function of the cerebrum, but this does not carry us very far to their solution. The primary trouble is essentially that of the group of functional disease to which it belongs—namely, the hysterical diseases. In the consideration of mental disturbances from the standpoint of function, one can recognise three factors which, acting normally, are responsible for comprehension, thought, and memory. These three factors are the afferent, the central, and the efferent paths of the central nervous system. Any element of these three systems may influence one or all the elements of the other two. In highly developed organisms the afferent and efferent systems work upon each other through the central; for some actions, however, the activity of the central processes is not necessary. In health the central system works upon the efferent by a process of excitation and depression, the healthy exercise of these functions constituting judgment. In a steady state of health the central system does not materially alter or affect the normal impressions received from the afferent paths, but in disease it does, the result being delusions. Delusions are the result of a disturbed central mechanism—that is to say, they are the outward and visible sign of intrinsic central trouble. Intrinsic afferent trouble constitutes such diseases as blindness, deafness, and the like; intrinsic efferent trouble the various paralyses. A diseased action of the central mechanism on the efferent system results in disturbances of judgment. Most diseases of the mental organisation are referable to excessive, diminished, or perverted function.

In the case above considered, we may imagine the higher elements of the central mechanism to be, as it were, blotted out. That is to say, comprehension and thought, at the time of his attack, were non-existent. With the abolition of comprehension, the influence of this function on the actions disappeared, the lad manifesting no sign of judgment, and so arose such symptoms as refusal of food, incontinence of urine, and the plasticity of the limbs. Memory, as we have seen, was not altogether in abeyance, but was not associated with any efferent impulse. The trouble was one in which the highest functions only were concerned.

The recovery of many of these cases is not infrequently accompanied by an attack of maniacal excitement, as though the central mechanism, after its long period of inactivity, begins work with its functions exalted.

I am indebted to Dr. F. B. Thornton of Derby for permission to publish this case.

Cheadle, near Manchester.

REMOVAL OF SUPERFLUOUS HAIRS BY IMPROVED METHODS.

By A. HOWARD PIRIE, B.Sc., M.D. Edin.,
CHIEF ASSISTANT IN THE ELECTRICAL DEPARTMENT, ST. BARTHOLOMEW'S HOSPITAL

THE removal of superfluous hairs by means of electrolysis is a very satisfactory minor operation when well carried out. Frequently, however, a small scar is produced at the seat of operation, and in order to avoid such a scar a simple precaution is necessary which is not mentioned in works on medical electricity. Like all other operations, it must be performed intelligently and not blindly, without regard to the principles of electricity, anatomy, and physiology. It is often spoken of as if the root of the hair was burned by the electricity as a nævus is burned by a cautery point. This is quite a wrong view to take of the operation. The destruction of the root of the hair is caused by an acid or an alkali, generated at the positive and negative poles respectively. 1. If a needle which is not acted on by acids is used, such as gold or platinum, and it is connected to the negative pole, then nascent chlorine appears round the needle with the formation of hydrochloric acid and destruction of the hair bulb. It is as if a minute quantity of free hydrochloric acid had been injected into the hair follicle. 2. If a needle which is acted on by hydrochloric acid is used, such as zinc, the acid attacks the zinc, forming chloride of zinc, and this goes into solution; thus both hydrochloric acid and zinc chloride are set free in the hair follicle. In this case a little of the zinc remains in the follicle, but is not driven in to the surrounding cells, and therefore there is no staining of the skin where a corrodible needle is used, provided it is connected to the negative pole. 3. If a non-corrodible needle such as gold is used for the operation, and it is connected to the positive pole, free sodium is liberated at the surfaces of the needle; this at once combines with the water of the tissues to form caustic soda, which in turn attacks and destroys the root of the hair. 4. If a corrodible needle, such as a steel needle, be used and be connected to the positive pole free sodium is liberated at the surface of the needle, which at once becomes caustic soda, which attacks the iron, forming oxide, and hydrate of iron. This remains in the hair follicle and therefore does not stain permanently the skin. But there is a much more important action going on in this case which does stain the tissues, and that is the transport of iron ions from the steel needle into the actual cells of the skin, where they are fixed and remain as iron oxide or rust. For this reason a corrodible needle must never be attached to the positive pole in this operation. No pigmentation is therefore produced if one uses a corrodible needle, provided it is connected to the negative pole.

When the current is turned on and the needle which is attached to the negative pole touches the skin, acid formation at once begins. As the needle sinks into the hair follicle the acid also penetrates deeper till it reaches and destroys the bulb of the hair. The needle must be left a sufficient length of time to allow sufficient acid to collect in the follicle to destroy the root of the hair. But while the root is being destroyed, so is the skin around that part of the hair which is embedded in the upper layer of the skin. It is quite unnecessary to destroy more than the root of the hair, and this destruction of surrounding tissue is the cause of future scarring. This can easily be avoided by a simple method of insulating the needle to within a sixteenth of an inch of its point. When a needle is so insulated and thrust into the root of the hair, the free acid attacks only the root and therefore there is no scarring left after the operation. Patients have remarked to me on the decrease in the amount of reaction following the operation when the insulated needle has been used, and it is very striking to an operator who uses an insulated needle after being accustomed to a naked needle.

The method of insulating the needle is very simple. In the first place, I prefer to use a fine wire in place of a needle. I find the wire supplied with the finest hypodermic needle useful for the purpose. It is finer than a No. 12 sewing needle, which is the finest sewing needle obtainable. Another advantage of this wire is that it has not a sharp point and therefore is not so likely to leave the hair follicle and make a false passage. If too much force is used in introducing the wire it bends and makes further progress impossible. By its extreme fineness it finds its way down by the side of the hair, and in the case of hairs whose roots take a curved course in the skin it follows the curve instead of making a false passage, as the finest sewing needle does. Unless the point of the needle reaches the actual bulb of the hair the operation is useless. Therefore a fine wire with a blunt point is better than a fine sharp needle for the purpose.

The wire should be insulated as follows. Hold a piece of shellac in the left hand and the wire in the right. Heat the wire to redness in a Bunsen flame, and while red hot embed it quickly in the shellac all except its point and lift it out again quickly, thus leaving a sixteenth of an inch uncovered by shellac. There is thus a thin layer of shellac left on the wire, and it fits it so well that no irregularity appears to the naked eye in the outline of the wire as compared with its former state. The tip of the wire must not touch the shellac. One-sixteenth of an inch remains naked at the tip of the wire. The wire cuts into the shellac when it is red hot as one cats a banana with a knife.

Conclusion.—To sum up, the essentials of good results in this operation are: (1) connect the needle to the negative pole; (2) use a fine stiff wire as a needle (the wire supplied with the finest hypodermic needle is a suitable one); and (3) insulate the wire so that only the last one-sixteenth of an inch supplies the current. The advantages of this method are two—(1) no scarring after the operation; and (2) a lower per cent. of re-growth of hairs.

New Cavendish street, W.

A SIMPLE METHOD OF DIAGNOSIS IN PARALYSES OF THE EXTRINSIC MUSCLES OF THE EYE.

BY ANGUS MACNAB, M.B., CH.B. EDIN., F.R.C.S. ENG.,
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IT is quite unnecessary to insist on the importance of being able to diagnose the affected muscle in a case of diplopia; it is equally unnecessary to point out that the methods generally adopted entail either a very efficient *memory or a severe mental effort on the part of the physician* making the diagnosis. The almost invariable difficulty which students find in their attempts to decide which muscle is affected seems to show that the methods employed do not allow of the diagnosis being readily and exactly made.

It appears impossible to bring any new observations to bear on such an old subject, but the grouping of the facts here given and the generalisations from them appear to make the subject easy of comprehension and the diagnosis of the particular muscle simple, the only requirement being the elementary one, that the direction, point of insertion, and action of each of the muscles should be known.

The diagnosis proceeds in stages. I., Is there a muscle paralysed? II., What is its action? III., Which eye is affected? IV., W[illegible] *action is affected?* [illegible] the particular the[illegible] till the final test [illegible] two similarly acting muscles.

It will be noted that the scheme here elaborated pays no *attention to crossed or homonymous diplopia, though the* first step taken by many is to determine, Is the diplopia homonymous or crossed? This method of proceeding may be [illegible] oblique paralysis [illegible] the eyes, and [illegible] homonymous; but if the patient previously had an exophoria, the divergence due to it might exceed the convergence due to the paralysis and the diplopia would be crossed, which, of course, would contra-indicate a superior oblique paralysis. The general statement given below as Section 4, that the angular separation of the images is greatest when the object is in the line of the affected tendon and the torsional displacement, if any, is greatest when the line from the object to the eye cuts the affected tendon at right angles, will be found very useful.

There are several fallacies which should be avoided if a correct diagnosis is to be arrived at. The eye which obviously deviates from the object fixed is not necessarily the one affected, for the patient may have very good vision in the affected eye, and bad vision in the one whose muscles are normal; the secondary deviation of the unaffected eye may then be mistaken for the primary deviation of the affected one. In testing for torsional displacement, too, the vertical image is not necessarily due to the unaffected eye. The patient will often say that the coloured object (candle) is leaning and the white one is vertical; and then if the coloured glass be moved to the other eye the white object is still ver[illegible] unnecessary to det[illegible] the important poi[illegible] of inclination of[illegible]

T[illegible]

1. *A muscle is paralysed when a diplopia occurs in one of the field of vision or when there is diplopia over the whole field and the separation of the images increases in one direction.*

[illegible] the patient is directed [illegible]ssively raised, lowered, [illegible] two candles in some [illegible] positions the distance [illegible]ions, there is a muscle paresis.

2. *The direction in which the diplopia is greatest*[1] *indicates the direction of action of the affected muscle.*

[illegible] downwards.

3. *The image projected further in the direction of greatest diplopia is formed by the affected eye.* When the candle is moved in the direction in which the diplopia increases the image which moves most rapidly in that direction is the one formed by the affected eye.

[illegible]

4. *The separation of the images is greatest when the eye is looking along the line of the tendon of the affected muscle* or when the object is opposite the end of the affected tendon.

[illegible] *will be greater when* [illegible]

This method has been found very efficient and has stood the test of three years' application to all the cases of muscle paralysis occurring in two busy hospital clinics. It requires no diagram to be memorised, and calls for the minimum of intelligent coöperation on the part of the patient.

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[1] [illegible] *used to mean the angular* [illegible]

The application of these rules to the various muscle paralyses taken in detail is as follows:—

Given a diplopia which increases in one direction we have—

A.—HORIZONTAL DIPLOPIA.

1. Increasing towards the *right*:—
    - (*a*) Image formed by the right eye further to the right: *Right External Rectus.*
    - (*b*) Image formed by the left eye to the right: *Left Internal Rectus.*
2. Increasing to the *left*:—
    - (*c*) Image formed by the left eye to the left: *Left External Rectus.*
    - (*d*) Image formed by the right eye to the left: *Right Internal Rectus.*

B.—VERTICAL DIPLOPIAS.

[illegible]
[illegible] ected.
[illegible] up and to the right than up and to [illegible] rior Rectus.

(*f*) Separation greater up and to the left than up and to the right: *Right Inferior Oblique.*

2. Left eye's image above:—
An elevator of the left eye affected.
    - (*g*) Separation greater up and to the left than up and to the right: *Left Superior Rectus.*
    - (*h*) Separation greater up and to the right than up and to the left: *Left Inferior Oblique.*

[illegible] wards.
[illegible] w:—
[illegible] eye affected.
[illegible] down and to the right than down and to the left: *Right Inferior Rectus.*

(*j*) Separation greater down and to the left than down and to the right: *Right Superior Oblique.*

2. Left eye's image below:—
A depressor of the left eye affected.
    - (*k*) Separation greater down and to the left than down and to the right: *Left Inferior Rectus.*
    - (*l*) Separation greater down and to the right than down and to the left: *Left Superior Oblique.*

New Cavendish-street, W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Benign Tumours (Fibroma, Myoma, Lipoma) Encapsuled in the Wall of the Stomach.—Some Cases of Gastric Surgery.

A MEETING of this section was held on June 8th, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Mr. WALTER G. SPENCER read a paper on Benign Tumours (Fibroma, Myoma, and Lipoma) Encapsuled in the Wall of the Stomach. He said the connective-tissue tumours of the stomach were commonly sarcomata. There were, however, exceptions to that general statement: a benign encapsuled growth, a fibroma, myoma, or lipoma, might increase to a considerable tumour, and yet could be removed without damage to the stomach. These benign growths had been mistaken for sarcomata and an excessive operation had been done; when left alone, such tumours had caused death by pyloric obstruction, or by ultimately becoming malignant. A case under Mr. Spencer which occurred in a female, aged 46 years, was similar to a tumour of the stomach described by Morgagni. The patient was first seen by Mr. H. G. Barling, who discovered the tumour and distinguished it from the kidneys, which were both moveable in the horizontal plane. When drawn out through the abdominal incision the appearance was that of a perfectly normal stomach containing a soft body of the size and shape of a large kidney. The stomach cavity was quite normal, but the mucous membrane of the posterior wall was pushed forwards, yet was freely moveable over the tumour, which had grown in the submucous tissue. The tumour was easily shelled out and proved to be a dense fibroma of the shape and size of a large kidney, weighing 200 grammes, or 7 ounces. The patient recovered well, and three and a half months after was fit to resume her occupation. Mr. Spencer also showed a museum specimen of a precisely similar tumour, only smaller, the size and shape of a small sausage. But it was placed in exactly the same position, with the convexity downwards and the concavity close to the lesser curvature. It also during life formed a freely moveable abdominal tumour which the surgeon took for an intussusception and cut out the tumour along with the middle part of the woman's stomach. Finding out what he had done, he had to reopen the abdomen to correct the suturing, but the patient died. The tumour was shown *in situ* and was seen to be situated in the submucous layer, encapsuled and separable from the mucous and muscular coats. Under the microscope it had the structure of a myoma or fibromyoma. Reference was made to other cases of encapsuled and pedunculated benign tumours of the stomach; also to specimens in the Museum of the Royal College of Surgeons of England from the horse and cod-fish. Mr. Spencer, in conclusion, said that although it was impossible to diagnose such tumours except at the time of operation, yet benign tumours, either sessile or encapsuled, or pedunculated and easily detached, could be successfully removed without excising any portion of the stomach.—Mr. L. A. BIDWELL said it was interesting to note that a tumour of the stomach might be mistaken for a moveable kidney and described a case in point. He raised the question whether benign tumours ever became malignant.—Dr. H. MACNAUGHTON JONES remarked that malignant degeneration was observed in uterine myomata.—The PRESIDENT suggested that benign tumours became malignant, not from degeneration but from invasion from without.—Mr. SPENCER, in replying, pointed out that the question of benign tumours becoming malignant really resolved itself into a question of terms. A tumour that from an ordinary surgical point of view might be described as benign, might, if submitted to minute histological examination, be found to contain malignant features.

Mr. E. STANMORE BISHOP read a paper entitled "On Some Cases of Gastric Surgery." He said that surgery, as applied to gastric disease, had of late years attracted much attention. The proposal to treat surgically gastric ulcer and its results was comparatively recent, and all records of cases so treated were valuable, whilst the outcome had been, as a rule, so satisfactory that many previously looked upon as incurable or neurotic had been subjected to at least exploratory operations with a view if suitable to more definite procedures. Those explorations had resulted in the discovery of some conditions which were to a certain extent unexpected but which had proved amenable to surgical skill, such, for instance, as hour-glass stomach or early carcinoma, whilst experience had shown that gastric or duodenal perforations were, if attended to without loss of time, by no means the hopeless accidents they were once considered. Of partial gastrectomy there had been six cases. In all, operation was not sought until a well-marked mass was present which could be felt, and in two cases seen. The lump varied in size from a celluloid ball to a tangerine orange. The patients were two males and four females, their ages ranged from 38 to 57 years. All the patients were in very poor condition and had become emaciated; probably that accounted in large measure for the mortality—four out of six. Two survived for a period of 10 and 12 months respectively, but died ultimately: from certain recurrence in one case and from exhaustion with probable recurrence in the other, but that was not verified post mortem. The operation performed in each case was that of Billroth with end-to-end union, and that was followed in two cases by leakage at the angle between the vertical and circular sutures. In all great difficulty was experienced with the clamps. The later method of closing both openings completely and finishing with gastro-enterostomy evidently yielded better results, and was the measure which would probably be adopted generally in future. In the *Annals of Surgery* last year Mayo called attention to a triangular fold of peritoneum descending in certain cases from the duodeno-jejunal angle and losing itself on the jejunum and advised its removal. It would also be in the memory of all abdominal surgeons that a discussion arose some months since as to the correct line of apposition between the two viscera. Might it not be that that fold indicated the proper angle at which the united jejunum should lie, and that so far from removal it should be welcomed as an additional means of strengthening and protecting the line of union? In two of his cases it was observed and used for that purpose. The result was good, and in the later cases the angle so indicated had been followed as nearly as possible. Another point to which he had as yet seen no reference was the peculiar naked-eye appearance of the first seven or eight inches of the jejunum; that gut, which was the part desired for anastomosis, looked sodden, it had not the polished surface of the rest of the small intestine and was covered by a number of minute eminences; it might contain putty which had been compressed in places, so "moulded" was it. Of course, the surgeon relied mainly upon the fact of its emergence from the duodeno-jejunal opening, upon its anatomical position in fact, to assure himself that it was the coil required, but that was a confirmation which supplied additional certitude and was therefore welcome. He was not sure that that was always the case, but he had seen it in so many that he should confess to a feeling of doubt and uneasiness if it were not recognisable. Another point was the value of the symptom of hunger-pain as a differentiator between gastric and duodenal ulcers. This symptom undoubtedly had great significance, and was of much importance in the differential diagnosis, but he ventured to hint that that differential value might be somewhat exaggerated. In two or three of his cases in which duodenal ulcer was demonstrated at the operation that symptom was absent, whilst in a case sent to him by a well-known physician with a confident diagnosis of duodenal ulcer, based upon its presence, no duodenal ulcer was found, but a typical saddle-shaped ulcer of the lesser curvature of the stomach was present. The operation itself appeared to act very much in the same way with reference to the passage of food through the alimentary canal as perineal section did with regard to the passage of urine through the urethra when a stricture was present; the stricture in that case being at the pylorus, at first all the contents passed through the new opening; the stricture being thus allowed to rest, if not cancerous, slowly yielded; some content began to find its way along the normal route, then more and more, less and less passing through the artificial opening, until at last the normal route became again the only one. Whether the new [illegible] totally closed, [illegible] far appear to be [illegible] tended in that direction, the x-ray evidence he had been able to obtain seemed to show very definitely.—After Mr. BIDWELL, Mr. C. P. CHILDE, and Mr. SPENCER had spoken, Mr. STANMORE BISHOP replied.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Eye-Strain.—Pharmacology of Ergot.

A MEETING of this society was held on June 2nd, Dr. JAMES RITCHIE, the President, being in the chair.

Mr. GEORGE A. BERRY opened a discussion in a communication entitled "Critical Remarks on the Symptomatology and Causes of so-called Eye-strain." After referring to the vagueness of the term he said that popularly "weakness" [illegible] intolerance of [illegible] headache ind[illegible] hand, was a term originated by the medical profession and he did not know of it as distinct from asthenopia; indeed, he preferred the latter term as it was associated with a generic diagnosis. He thought that the bearing which eye conditions had in causing headache had been exaggerated. When there was hypermetropia, or astigmatism, or an absence of complete lateral parallelism of the axes of the two eyes, it did not follow that the deviations from the normal accounted for the patient's complaints as they were too readily assumed to do. Speaking generally, the symptoms which in his opinion indicated eye-strain were due either to irritations of the superficial nerves in the conjunctiva and cornea or to the use of the eyes under conditions which called for a strained [illegible] alone. In other cases the headache might be looked upon more as the effect of the cerebral effort which was required to dissociate nerve impulses. In almost all cases of eye-strain there was also an individually variable element to be considered—namely, the neurotic element. Equal sources of irritation produced different degrees of pain in different individuals or in the same individual at different times. Thus, in health an effort might be made without the conscious appreciation of its being an effort, while in ill health it might be associated with asthenopia. Thus often during convalescence from acute illness, discomfort or pain in the eyes or headache might be experienced for the first time. The most frequent causes of conjunctival and corneal irritation were lid pressure, exposure to strong illumination, and gout. Lid pressure was very often induced by astigmatism, especially if this was one in which the horizontal meridian of the cornea was the most highly curved (as happened in 20 per cent. of astigmatic eyes), when an unconscious effort was made to correct it by pressing the lids on the eye. Generally this could only be done by frowning. The pressure induced irritation of the cornea leading by summation to the sensation of frontal strain and headache. Most people who have walked in the glare of the sun have experienced this headache as a result of the frowning and semiclosure of the eyes. Many astigmatics have found out that their vision can be improved by pressing the finger-tip on the eyeball. The ophthalmometer revealed in many cases the change which lid pressure produced on the cornea. The headache induced by lid pressure arose mainly when the eyes were focussed on near objects. Lid pressure was only resorted to in the lower degree of astigmatism because headaches did not accompany the higher degrees of this affection. Asthenopic symptoms from the superficial irritation caused by strong illumination were very common and were due to the effect of the ultra-violet rays. The eyes were usually protected from such rays by being directed to the green of grass or trees which absorbed the rays. The symptom set up by such strong light as sunlight, reflection from white paper, incandescent gas or electric light was not generally headache but smarting of the eyes when reading and inability to continue reading for long. The symptoms quickly disappeared when the patient was kept in a darkened room, but such treatment was both unnecessarily irksome and even hurtful. All that was necessary was to protect the eyes from the rays by special glasses, the best of which was called "euphos," but "London smoke" glasses afforded a sufficient protection and allowed the patient to live in sunlight. When there was astigmatism the use of cylindrical glasses became necessary but they were only required for reading or other near work if headaches were present. Another form of eye-strain was technically called asthenopia accommodativa. The most frequent cause of this kind of headache was hypermetropia and it was aggravated by reading with insufficient light. Reading in bed was often hurtful because the illumination was obtained from a single feeble candle. Myopic conditions were easily recognised, and hence the symptoms complained of could be treated. Early and full correction for reading until after the age of full growth was now generally recognised to be right. In what has been called asthenopia nervosa the patients were, in fact, hysterical and treatment by suggestion was advisable. Mr. Berry had found the subcutaneous injection of sterilised water over the eyebrows was most efficacious, and the use of dark glasses must be forbidden. Not more than three or four injections should be given.—Dr. GEORGE MACKAY said that the personal equation in eye-strain was remarkable. Some individuals with very marked errors of refraction never suffered from headache, while in other cases with very slight errors the disability owing to headache was intense. The employment of a very weak prism often afforded remarkable relief.—Dr. W. G. SYM said that an endless number of diseases, including sterility, diabetes, and appendicitis, were supposed by some to be due to eye-strain. He thought that Mr. Berry had made too much of the lid-pressure theory.

Dr. ALEXANDER GOODALL read a paper entitled "A Pharmacological Estimate of the Value of Commercial Samples of the Liquid Extract of Ergot with Notes on Ergot Standardisation." He said that in the case of some drugs whose active [illegible] a chemical standard was laid down [illegible] where no che[illegible]tion gave no guidance. It had been found, however, by many firms of manufacturing chemists that it was in their interest to employ a pharmacological test for some of their products, and in the case of certain substances there now existed ample data to afford standards. Well-known examples were the tinctures of digitalis, strophanthus, and squill, and the preparations of adrenalin and cannabis indica. The position regarding ergot was different. Its therapeutic effects were notoriously uncertain, and its chemistry was in a state of chaos. There was no general agreement regarding its pharmacological action, and there were no very satisfactory data to afford guidance in attempting to fix a pharmacological standard. Added to all this was the fact that ergot preparations tended to lose their activity very rapidly. Among the methods of standardisation employed were: (1) depth of blue produced in the cock's comb; (2) the effect on the blood pressure in pithed or in anæsthetised animals; (3) the reversal of the effects of adrenalin; and (4) the effect upon the isolated uterus. The first method consisted in injecting fluid extract of ergot into fowls or feeding them with an ergot preparation. If the preparation was active the comb and wattles became blue and cold. The method was not a certain one. There was evidence that toxic effects and even gangrene might be caused without any effect being necessarily produced on the contraction of the vessels or visceral muscle elsewhere. The second method consisted in injecting a fluid preparation intravenously and noting the effect on the blood pressure of a pithed or anæsthetised animal. In this way it was quite possible to increase the blood pressure in a cat by 20 or 30 millimetres of mercury. The third method was introduced by Dale, who said that he had found it apply in particular to a base which he had isolated and called ergotoxin. Stated briefly, the method depended upon the fact that if adrenalin be injected into an animal during the rise of pressure caused by ergotoxin it would cause a fall of pressure, but Dr. Goodall had not been able to obtain satisfactory results with preparations stated to be standardised by this method. The fourth method depended on the effect of ergot in Ringer's solution on the isolated uterus, and had been commended as an excellent means of standardisation. Dr. Goodall at first considered that the effect upon the blood pressure seemed to be the simplest and most accurate. Observations were accordingly made upon rabbits and cats under full anæsthesia by ether. The readings were taken from the carotid artery. The injections were made into the jugular vein. The results have been classified in three series—namely: (1) the effect on the blood pressure produced by special samples of ergot; (2) the effect on the blood pressure produced by ordinary commercial samples of ergot; and (3) combined observations of the effects produced on the blood pressure and on the uterus. The observations in Series 1 were made with samples submitted to Dr. Goodall by manufacturing chemists to be tested physiologically, so that these samples were probably made from carefully selected ergot. In every case there was a fall of blood pressure succeeded by either a return to normal or a rise above it. The results given by the last 17 specimens showed an average fall of 39·4 millimetres of mercury, followed by an average rise of 20·5 millimetres above normal. As regards pressor action—i.e., the subsequent rise above normal—five specimens had no effect and five caused a rise of 30 or more millimetres. In other words, 70 per cent. failed to cause a rise of 30 millimetres and 41 per cent. failed to cause a rise of 20 millimetres. In Series 2 use was made of samples of liquid extract of ergot obtained from well-known houses in London, Edinburgh, and elsewhere. The collective result was that 76 per cent. of these commercial samples failed to raise the blood pressure 20 millimetres of mercury. In Series 3 the combined effects on the blood pressure and on the uterus were observed. Of the 21 samples employed, 14 caused a satisfactory contraction of the uterus in doses which did not necessarily raise the blood pressure, while four samples caused a slight contraction, and only three failed to affect the uterus. This means that 66 per cent. of the samples caused a well-marked uterine contraction, and that 85 per cent. caused a contraction of some sort. The most striking phenomenon of the three series was the absolutely constant fall of blood pressure which followed immediately upon an intravenous injection. It was stated by Dixon that this fall was due to impurities and that it did not occur if the ergot was injected subcutaneously. The question of the absorption of ergot did not come within their purview, but there could be no doubt that the pharmacology of ergot would remain unsatisfactory until a means of separating the depressor constituents had been discovered. The rise of pressure which followed the fall was not nearly so constant, but it might have been that in many experiments the depressor and pressor substances balanced each other. A sample of ergot which caused a rise of blood pressure also caused contraction of the uterus, but a sample which caused no rise of blood pressure might nevertheless cause a satisfactory uterine contraction. Samples of ergot might cause contraction of the uterus in smaller doses than were required to raise the blood pressure. Ergot therefore appeared to have a specific action on the uterus. Dr. Goodall considered that the effect on the blood pressure was a *satisfactory* pharmacological test as far as the prescriber was concerned. A fair standard was that a dose not greater than 20 minims injected intravenously should cause a rise of blood pressure of 20 millimetres of mercury in an anæsthetised animal weighing 1500 grammes. On the other hand, since 42 per cent. of the commercial samples caused contraction of the uterus without effecting a rise of blood pressure, the action on the uterus might be regarded as a more satisfactory test by the manufacturer, and in view of the almost exclusive use of ergot in uterine conditions might be considered sufficient by the prescriber.

ROYAL ACADEMY OF MEDICINE IN IRELAND.—A meeting of the Obstetrical Section was held on May 21st, Mr. E. H. Tweedy, the President, being in the chair.—The President exhibited specimens of Fibroids with red degeneration, removed six weeks after delivery. The woman had been sent to him six months pregnant and with a large myoma. He kept her over two months in hospital. He induced labour at full term. The child was dead. On the third day her temperature and pulse rose, and on the fourth day the temperature reached 103° F. There was great tenderness of the abdomen and he became very uneasy about the case. He asked Sir William Smyly to see her in consultation on the fifth day with a view to immediate operation. Sir William Smyly advised postponement of the operation and the woman got gradually better. When her temperature became normal he removed the tumour by supra-vaginal hysterectomy. It showed in a very characteristic manner red degeneration, which was a disease that apparently very rarely occurred save in pregnancy. High temperature was a constant symptom of red degeneration, and this he thought might arise apart from a germ invasion and be due to absorption of toxic matter from the degenerating myoma.—Dr. R. D. Purefoy said that the change noticed in one of these tumours was one of the least common forms of degeneration and one of which they knew least. He was not quite convinced that the temperature was due to the red degeneration. He was inclined to think that it was connected with a certain degree of localised sepsis.—Dr. H. Jellett said he was watching a patient who came to him six months pregnant with a large myoma below the fœtus, filling the pelvis. The patient had been going on very well since. In such a case, where there was a large myoma on the posterior wall of the uterus, filling the hollow of the sacrum, and in which the cervix was jammed above the symphysis, he would like to know how long Mr. Tweedy would allow her to remain in labour. Sometimes tumours that were firmly impacted did get drawn up, but in his case it seemed rather hopeless to expect the tumour to do so.—Dr. R. J. Rowlette said there were certain points about red degeneration which were fairly fixed. It was commonly found associated with pregnancy, and seldom in other conditions. In almost every myoma associated with pregnancy which he had seen there had been more or less red degeneration. It was certainly a necrotic change of some sort, as the tissue failed to stain. In pregnancy the entire tissue of the uterus was in a highly vascular condition, and something interfering with the blood-supply, causing stasis in the veins, might cause a diffusion of blood pigment. There was no doubt that in some cases the red degeneration might give rise to temperature, as it was liable to be affected by septic or putrefactive organisms.—The President, in reply, said the fibroids were chiefly situated on the fundus, but also encroached on the lower uterine segment. It was only when he became convinced that the growth had undergone degeneration that he determined not to let the patient run the risk of another pregnancy. He thought Dr. Jellett's case was plain sailing. His patient should not be allowed even to fall into labour. He should calculate the time of full term and perform Cæsarean section. After removing the child it would be easy to remove the uterus. The myoma was almost certain to degenerate if she was allowed to fall into labour. He thought there was a toxin that could raise the temperature apart from germ invasion.—Dr. Purefoy read a paper on Some Pathological Conditions of [illegible] paper entitled [illegible] complicated by [illegible] and others dis[illegible]

Reviews and Notices of Books.

Further Advances in Physiology. Edited by Leonard Hill, M.B. Lond., F.R.S. With diagrams. London: Edward Arnold. 1909. Pp. 440. Price 15s. net.

This volume is the sequel to "Recent Advances in Physiology" by the same editor, and deals with certain branches of the science other than those dealt with in that volume. The aim of the editor and his coadjutors has been to record their views on certain selected subjects which have a particular application to pathology and clinical medicine—e.g., problems concerning the circulation and respiration, the neuro-muscular system, and vision. To each subject is appended a bibliography of recent works on that subject.

Professor Benjamin Moore writes on the Equilibrium of Colloid and Crystalloid in Living Cells (pp. 1–33). It is a dissertation on chemico-physical matters, including a discussion of that excessively complex physico-chemical aggregate called protoplasm or bioplasm and its essential constituents the proteins. The importance of the inorganic ions for cell life and activity is set forth. The relation of nutrient fluids to the heart beat is admirably discussed, and the paramount importance of ions of the inorganic salts which, while they have a loose union with the proteins, possess such freedom of movement that they give to the solution in which they exist many of the more important physico-chemical properties of a saline solution. The author concludes "that neither osmosis nor any other physical hypothesis which leaves out the peculiar and varying chemical constitution of bioplasm can yield an explanation of absorption, secretion, or excretion," and that "the unstable unions between bioplasm and dissolved substances furnish the key to many of the intricate problems both of physiology and of practical medicine."

Dr. Martin W. Flack's essay on the Heart (pp. 34–71) deals with its histology and morphology and with the nervous elements of the vertebrate heart. The heart musculature is now known to be of the nature of a syncytium. The *a.-v.* bundle, of course, receives special attention. "The evidence that the *a.-v.* bundle is the sole passage of conduction is tolerably strong" (p. 61). The peculiarities of cardiac muscle as contrasted with skeletal muscle are set forth in detail. The relative merits of the myogenic and neurogenic theories of the heart beat are critically examined, but Engelmann's terms, "chronotrop," "inotrope," do not seem to be introduced, while in connexion with the revival of apparently dead hearts after many hours we do not find the name of Kuliabko. There is also a careful study of the heart *in situ*.

"Pulse Records in their Relation to the Events of the Human Cardiac Cycle" (pp. 72–111) are reviewed by Dr. Thomas Lewis. The author insists on the value of graphic curves taken simultaneously from different pulsating parts. The venous pulse in man and animals is fully studied, and a minute study is made of the auricular pressure curve and the jugular pulse tracing. Wenckebach on occasion is printed as "Wenchebach" in this essay.

The editor's chapters on "The Vascular System and Blood Pressure" (pp. 112–181) are both interesting and controversial. In Pawlow's laboratory the establishment of what is called Eck's fistula—i.e., joining the portal vein and vena cava—was the prelude to the more heroic work of Carrel, Guthrie, and others in America, which has opened up a new field in experimental work. The carotid has been stitched by Carrel to the external jugular vein, and the circulation in the thyroid gland reversed with no ill consequences. A length of the carotid artery of a dog has been kept in normal saline solution at 32° F. for 20 days and then successfully transplanted in the course of the abdominal aorta of a young cat, and on the seventy-seventh day the animal was in perfect health. He who wishes to read the Romance of Surgery will find it in the *Journal of Experimental Medicine.* The experiments were made at the Rockefeller Institute, and of Carrel's paper on "Transplantation in Mass of the Kidneys" a *résumé* with illustrations is given by Dr. Hill.

Dr. Hill also recounts fully the recent experiments on the contractility and elasticity of arteries, of arterial, venous, and capillary pressures in man, and the methods of measuring them; and especially does he dwell on the factors that cause increased tension in organs enclosed in capsules, which leads him to the consideration of glaucoma and intracranial and other pressures. He finds that a pressure of from 10 to 20 millimetres of water are sufficient to overcome the capillary pressure in the arm placed at the heart's apex level (p. 142). We would call attention to the importance attached by Dr. Hill to muscular movements in connexion with the circulation, and we can do so best by quoting his own words:—

> The function of the heart is to drive the blood into the capillary bed; [illegible]

The effect of mental work on blood pressure and the importance of muscular exercise in the cure of irritable dyspepsia of brain-workers are considered. Dr. Hill then deals drastically with the present filtration hypothesis relating to lymph formation, œdema, and dropsy. Plethora, hydræmia, hyperæmia, shock, and collapse are next considered. The whole essay is worthy of careful study.

Dr. Arthur Keith writes an excellent monograph on "The Mechanism of Respiration in Man" (pp. 182–207). It is a telling example of how the study of what is apparently common-place in matters of anatomy may be made to shed new light on physiological problems. The author gives a summary of 16 points with which he deals; among his conclusions being that:—the expansion of parts of the lung are unequal, and the most expansible parts are the infundibula; the bronchial muscle regulates the tension of the infundibular air; the roots of the lungs are not fixed as is generally held; the great fissure of the lung is of functional importance; expiration is controlled by muscular action, and the diaphragm acts as a piston. We notice the author uses the term "Rontgen" instead of "Röntgen."

Dr. M. S. Pembrey's chapters on the Physiology of Muscular Work (pp. 208–257) are both interesting and practical. He is right in insisting that we ought to study the muscular activity as a whole as regards speed, endurance, and strength, *as in athletes, and make* more use of the results of trainers of men and animals. The effects of muscular work on the different functions of the body are fully considered. Some chapters on the Physiology of Nerve, by Dr. N. H. Alcock (pp. 258–283), will appeal more to the physiologist than to the practitioner; still the remarks on regeneration of nerves will have a special interest for the latter. We should like to have seen a fuller account of Head's work on section of nerves. We notice that the word "zincatine" is retained, and the term a "wave of zincatinity" is used.

Perhaps the most "revolutionary" chapter of all is that of Dr. J. S. Bolton on Recent Researches on Cerebral Localisation (pp. 284–350). A full account of the significance of cerebral lamination is given, including the superb work of Campbell, Brodmann, and others. The functions of the different cell laminæ are discussed, and the use of histology as a method of cortical localisation. Full credit is given to the researches and generalisations of Flechsig; nor is the early work of Bevan-Lewis and Clarke and the later work of John Turner forgotten. One of Dr. Bolton's most interesting chapters is that on the higher functions of the cerebrum. The classical views of aphasia and the time-honoured localisation of the motor speech centres in Broca's convolution have recently been assailed by Marie and Monakow. Physiologists and physicians should read and ponder well this comparison and critical dissection of the older and newer views on aphasia. They would do well also to study the discussion on language and on "alteration of personality." The Studies in Special Sense Physiology (pp. 351–425) by Mr. M. Greenwood deal with (1) visual adaptation, and (2) colour-blindness. The principles of the two modern theories of vision are considered and criticised; there is also an interesting historical introduction, including the speculations of the Greek philosophers on vision.

We cordially commend this work alike to physiologists and to medical men. It is at once scientific and suggestive, while the problems with which it deals so successfully are amongst the most interesting and practical that can engage the attention of all true students of medicine.

A System of Medicine by Eminent Authorities in Great Britain, the United States, and the Continent. Edited by William Osler, M.D. Oxon. and McGill, F.R.S., Regius Professor of Medicine in the University of Oxford, Honorary Professor of Medicine in the Johns Hopkins University, Baltimore; assisted by Thomas McCrae, M.D., F.R.C.P. Lond., Associate Professor of Medicine and Clinical Therapeutics in the Johns Hopkins University, Baltimore. Vol. V., Diseases of the Alimentary Tract. London: Henry Frowde and Hodder and Stoughton. 1909. Pp. 903. Price 30*s*. net.

In this volume of 903 pages is contained a series of monographs giving a most complete and erudite account of the diseases of the alimentary tract.

The first chapter is written by Dr. C. G. Stockton (Buffalo) and is headed Introductory Discussion on the Diseases of the Digestive Apparatus. Certain critical relations are described that may exist between disturbed physiological activity and structural changes as expressed in morbid processes. Dr. Stockton points out that digestion is frequently looked upon as the function of an extensive and complicated apparatus, but it is so intimately related with the functions of other parts of the body that it is difficult to draw lines of precise limitation beyond which it can be said that digestion has no part and from which it receives no reciprocal activity. The digestive apparatus is commonly spoken of as including the alimentary tract and those important glands which contribute specific secretions to the advancement of digestion; but as absorption and assimilation, on the one hand, and the formation and withdrawal of catabolic and waste products, on the other, are so immediately related to the preliminary digestion, it is impossible to form a clear conception of the diseases of the digestive organs without taking into consideration the state of other and contributing parts of the organism. The author then draws attention to some physiological points in what he terms the interrelation of digestive functions. Common experience teaches that the mental state and the sense of taste in some unknown way affect the primary digestion. Thus worry induces leanness, and happiness favours the opposite condition, in a measure independently of the amount of food taken. Further, the digestive secretions and the motor activity of the stomach and intestine are excited by proper psychical stimulation, and some of them inhibited, others over-excited, by distress. Several similar examples are given of the effect of other organs on the digestive organs, indicating the necessity of taking a broad view of the whole mechanism of the body when digestion is at fault.

Chapter II. is occupied with a consideration of diseases of the mouth and salivary glands, the author being Dr. D. Riesman (Philadelphia). A good account is given of the various affections of the mouth, especial attention being given to leukoplakia.

Diseases of the œsophagus are described by Dr. T. McCrae (Baltimore). Carcinoma of the œsophagus is considered at length and the frequency with which perforation is met with is noted. This complication may take place into different organs or areas, depending upon the site of the growth, but in by far the greatest number the ulceration occurs into the large air passages, the larynx, trachea, or a bronchus; apart from these situations it may occur into the mediastinal tissue, the pleura, the lung, or even, although a rarity, into the pericardium.

Functional diseases of the stomach are considered by Dr. Julius Friedenwald (Baltimore). The conditions of hyperchlorhydria, gastrosuccorrhœa, gastromyxorrhœa, gastralgia nervosa, achylia gastrica, and neurasthenia gastrica are described in an admirable manner. The symptoms and diagnosis are carefully discussed, and numerous useful hints are given in regard to therapeutics. Diet naturally holds an important place in the treatment of all these conditions, and the nature of the food which should be given is accurately and minutely laid down. The drugs which may prove useful are also indicated. In speaking of the preparations which may be employed in hyperchlorhydria Dr. Friedenwald remarks of the alkalies that may be useful in neutralising the excess of acid, that the bicarbonate of soda, calcined magnesia, magnesia carbonate, calcium carbonate, and the phosphate of soda are most frequently prescribed, and that calcined magnesia has an advantage over bicarbonate of soda, as the former neutralises four times as much acid as the latter; it has the additional advantage that it is distinctly laxative, and is therefore especially useful when constipation is present.

Dr. C. F. Martin (Montreal) is responsible for the chapter on organic disease of the stomach. Commencing with gastric and duodenal ulcer, he dwells at length on the pathogenesis of the former, but arrives at general conclusions only—namely, that gastric ulcer occurs wherever gastric juice flows, that the process in its earliest stages is essentially a necrosis, and that healing is prevented in some way by the action of the gastric juice. He also discusses the relationship of the circulatory system to this disease, but without expressing any definite opinion. He seems to indicate that neither embolism, hæmorrhagic erosions, nor submucous hæmorrhages satisfactorily explain the formation of ulcer. In regard to the neuropathic theory which has been advanced, Dr. Martin believes that beyond lowering the resisting power of the tissues of the stomach and also inducing hyperacidity, there is little connexion between injury of the nervous system and production of gastric ulcer.

The pathology of cancer of the stomach is fully described. It is pointed out that the growth is nearly always primary, secondary involvement being rare. Most practitioners will agree with the statement that there is no one pathognomonic sign of cancer in this site. The diagnosis must be made from the symptom and sign complex. Reference is naturally made to the secretory power of the stomach in cases of malignant disease of that organ, for it has been asserted that absence of hydrochloric acid is characteristic of that condition. Dr. Martin, however, points out that the absence of this acid is but one sign and of partial importance only, for the same phenomenon occurs in gastric neuroses, catarrh, and atrophy of the stomach, and also in the course of fevers and constitutional disturbances. On the other hand, he remarks that although the presence of lactic acid is not pathognomonic of cancer and may be present in intestinal obstruction, sometimes even in benign pyloric stenosis and other conditions, nevertheless its early appearance in cancer, together with a diminution of the total acidity even before any signs of stenosis, is very important.

Diseases of the intestine are described by Dr. Alfred Stengel (Philadelphia). A full and complete account is given of the chief intestinal affections, whilst brief reference is made to the less common ones, such as sprue, epidemic gangrenous proctitis, and others. One of the most striking features of this portion of the work is the manner in which the differential diagnosis of the principal diseases is discussed. The diagnosis of abdominal affections is often a matter of great difficulty, and Dr. Stengel's remarks are worthy of careful study. Much useful information will be derived by reference to them and some of the remarks are quite illuminating.

Dr. H. D. Rolleston (London) writes on diseases of the peritoneum. He makes some interesting observations on the natural resistance of the peritoneum against disease. He points out that the defensive powers of the membrane consist in (1) the great absorptive power of the peritoneum, by means of which invading organisms are carried away before they can multiply *in situ*, produce toxins, and so set up inflammation (it should, however, be noted that this absorptive power may lead to a general infection or toxæmia); (2) the phagocytic action exerted by endothelial cells, polymorphonuclear and other leucocytes; and (3) the bactericidal and antitoxic power of the peritoneal fluid. The section on subphrenic abscess will be found interesting. 11 causes of simple subphrenic abscess are tabulated, appendicitis being set down as the most frequent. The condition is one which is not infrequently missed and any information upon the physical signs that might help us in diagnosis is welcome.

A chapter by Dr. T. R. Brown (Baltimore) is devoted to a description of splanchnoptosis. The author considers this term preferable to enteroptosis, since the latter word simply means descent of the intestine, whilst the former may be taken to signify descent of any or all of the abdominal viscera. In describing the displacement of the individual organs special terms are used, such as nephroptosis, gastroptosis, and so on. Dr. Brown also remarks that in the earlier days nephroptosis, being much more easily recognised, was regarded as the most important feature, and to it were ascribed the protean symptoms often met with, while later investigations with better methods of diagnosis have shown that the displacement of the kidneys is usually associated with the displacement of the stomach, intestines, &c., and that many of the symptoms originally ascribed to floating kidney are in reality referable to displacement of other organs. This statement may perhaps explain the failure of operative measures which sometimes follows attempts made to give relief to floating kidney.

Diseases of the pancreas are considered by Dr. E. L. Opie (New York). The interesting condition, acute hæmorrhagic pancreatitis, receives full attention.

The last chapter in the book is by Dr. A. O. J. Kelly (Philadelphia) and deals with diseases of the liver, gall-bladder, and biliary ducts. An excellent account is given of cholelithiasis, the remarks on treatment being particularly worthy of attention.

We have perused this volume with pleasure. Much of the information which it contains is most valuable and we can cordially recommend the work to our readers. The subjects with which it is concerned are constantly met with in the ordinary course of practice, and many present great difficulties in the way of diagnosis and treatment. The principal feature of the work is the practical manner in which the authors of the various articles have dealt with the conditions which they have described. Theoretical considerations have not been neglected, but the symptomatology, diagnosis, and treatment have invariably been most fully and satisfactorily discussed; hence as a work of reference this volume will prove especially valuable.

Manual of Diseases of the Ear, Including Those of the Nose and Throat in Relation to the Ear. By THOMAS BARR, M.D. Glasg., Lecturer on Diseases of the Ear, University of Glasgow; and J. STODDART BARR, M.B., Ch.B. Glasg., Assistant Lecturer on Diseases of the Ear, University of Glasgow. Fourth edition, with three coloured plates and six illustrations. Glasgow: James Maclehose and Sons. 1909. Pp. 477. Price 14*s.*

WE have already had reason, when reviewing the previous editions of Dr. Thomas Barr's work, to speak of it in laudatory terms, and we have great pleasure in saying that we have still more reason to speak well of this volume. In the chapter on General Symptomatology there is a fairly full dissertation on the disturbances of equilibrium, and in referring to this symptom further on in the book it is stated that more experience is necessary with regard to Bárány's experiments. Although these experiments are alluded to, there is no detailed instruction given as to their employment, an omission which we regret, and trust that it will be remedied in the next edition. Otomassage is introduced for the first time in this edition—that is to say, if by that term nothing more is understood than the results obtained by the use of Delstanche's pneumatic tractor. Wilde's incision is still recommended in suitable cases; and although it must be admitted that this is not the usual teaching, yet it is a point upon which it is more than probable that there would be justifiable diversity of opinion. The portion of the book devoted to operations is extremely clear and well written. The section on Diseases of the Nose and Throat in Relation to Diseases of the Ear is somewhat altered, but not materially so; while that on Labyrinthine Suppuration has been very carefully brought up to the present date. As an addition in this issue three plates have been inserted each showing 15 coloured drawings of ear drums, with a detailed description. These will be extremely useful to students, some of them being particularly fine examples. The book has lost nothing by the inclusion of Dr. Stoddart Barr in the editorship. It is a splendid text-book and admirably written, and the rapidity with which successive editions appear shows well its popularity.

La Renaissance de l'Ophtalmologie. By Dr. JULIUS HIRSCHBERG, *Professor of Ophthalmology in the University of Berlin.* Translated from the German by Dr. DANIEL VAN DUYSE, Professor of Ophthalmology in the University of Ghent. With 12 figures in the text and seven plates. Leipzig: Wilhelm Engelmann. 1908. Pp. 147. *Price 6 marks.*

THIS brochure, dedicated to the Academy of Medicine of Paris by the author and translator, comprises the section on the renaissance of ophthalmology in the eighteenth century in the second edition of the great Graefe Saemisch Handbook of Ophthalmology. It is fitting that the history of the period which is distinguished by the pre-eminence of Daviel, the originator of extraction as the mode of election for the treatment of cataract, should appear in French guise. Moreover, it is a period of consuming interest for ophthalmologists, hardly less for Englishmen than for their French *confrères*, and many who find it difficult to read German will be grateful to Dr. van Duyse for his admirable translation. It lacks the bibliographies of the original and some of the notes; in the copy sent to us for review the last plate is also wanting.

The work is divided into three chapters—on the controversy as to the nature of cataract, on the operation for artificial pupil, and on the extraction of cataract. It is shown that Werner Rolfinck established anatomically the seat of cataract in the lens in 1656, thus confirming the opinion and perhaps the direct observation of François Quarré, a Parisian surgeon. At this period the lens was regarded as the seat of vision, and it was utterly heterodox to imagine that sight could be retained if it was injured or diseased. Hence a great controversy arose, the majority of surgeons retaining the old view that cataract was an opacity in front of the lens, which at that time was thought to be situated much farther back in the eye than is actually the case, the intervening space forming the posterior chamber. The struggle reached its climax in the early part of the eighteenth century, when a French surgeon, Brisseau the younger, re-discovered the truth and published it to the world in a small treatise on cataract and glaucoma in 1709. The famous Antoine Maitre-Jan subsequently made the same observation, apparently independent of Brisseau, since he does not mention his name. The first engagement in the campaign took place in the French Academy of Sciences and was notable for the conversion of Saint Yves. The greatest opponent of the theory, however, was the extraordinarily clever and unscrupulous Thomas Woolhouse, a man whose only rival in brilliancy, audacity, and charlatanism in the early history of ophthalmology is his compatriot Taylor. In France, besides Saint Yves, the new view was supported by Morand and François Pourfour du Petit, whilst strenuous adherents were found elsewhere—Heister, the illustrious anatomist and surgeon, in Germany; the not less illustrious Boerhaave in Holland; Valsalva, Morgagni, Benevoli, and Cocchi in Italy; and Cheselden, not to mention John Taylor, in England.

Cheselden, one of the glories of St. Thomas's Hospital, has left his mark on ophthalmology as the inventor of the operation for the formation of an artificial pupil. His first communication appeared in the Philosophical Transactions of the Royal Society in 1728, and dealt with the division of the "contracted" iris with a needle. Further observations on the subject were published in the fourth and subsequent editions of his anatomy. Cheselden and his pupil Sharp called the operation simply "incision through the iris," but it soon obtained the more dignified, if also more pedantic, name coremorphosis (pupil-formation). It is almost with regret that the honour of suggesting the procedure must be attributed to Woolhouse (1711). The second method of establishing an artificial pupil, by the excision of a cuneiform segment of the iris—iridectomy—is due to Joseph Beer of Vienna (1798). Even the production of an iridodialysis was advocated by Scarpa and others for the same purpose, but rapidly fell into disrepute. Iridencleisis, the incarceration of the iris in a corneal or scleral wound with a view to dragging the pupil to one side, was employed by Adams (1812), Himly, George Critchett, the elder Pagenstecher, and others. Patients on whom this operation has been performed are occasionally met with to-day, but unfortunately the eyes were liable to become inflamed and sympathetic ophthalmia not infrequently ensued.

The account of the introduction of extraction as the routine method for dealing with senile cataract will doubtless prove the most fascinating part of this record. It had been suggested by Steven Blankaart in 1668, and actually employed for lenses dislocated into the anterior chamber by Saint Yves and Petit in Paris in 1707 and 1708. The honour of introducing the operation for senile cataract and placing it upon a sound basis belongs without doubt to Jacques Daviel, whose first publication appeared in the *Mercure de France* in 1748. His chief publication was a communication to the French Academy of Sciences in 1752. Dr. Hirschberg and Dr. van Duyse have reproduced it in extenso, and ophthalmologists will read with profound interest this landmark in the history of their profession. In his earliest operations Daviel made a section which included the lower two-thirds of the cornea and followed the apparent corneo-scleral margin. The incision was commenced with a lance-shaped knife and completed with curved scissors. The flap was turned upwards with a spatula and the lens capsule opened with a needle. The lens was expressed by pressure with the finger on the lower lid. Later the section included only half the circumference of the cornea, and still later experiments were made with a triangular flap. The battle was not yet won. The new procedure demanded manipulative ability which every surgeon did not possess. A wave of reaction followed, abetted by Percival Pott and B. Bell of Edinburgh, though strongly opposed by Jonathan Wathen and James Ware amongst English surgeons. The final victory was ushered in by Joseph Beer, Frederick and Edward Jäger, Rosas, Fischer, Arlt, and Hasner, all members of the Austrian school: Sichel, a pupil of Frederick Jäger, carried it into France, where it was driven home by his pupil Desmarres. The subsequent history of the operation is too familiar to need recapitulation, dealing as it does with improvements of technique introduced by the modern school of ophthalmology which had its rise in von Graefe.

It will be gathered from our *resumé* that this book is one which every ophthalmologist will peruse with pleasure and profit, though it will be a matter for regret that English surgeons play no very creditable part in the story.

LIBRARY TABLE.

A Reference Handbook of Gynecology for Nurses. By CATHARINE MACFARLANE, M.D., Gynecologist to the Women's Hospital of Philadelphia. London and Philadelphia: W. B. Saunders Co. 1908. Pp. 150. Price 6*s.* net.—In this little book the authoress has attempted to set clearly before her readers the main facts in regard to gynæcological nursing which it is necessary for nurses to know. A short account is given of the commoner gynæcological affections, and then the preparation of a patient for an operation, the details of the duties of the nurse during the operation, and the after-treatment of the case are all considered. To help the memory illustrations are given of all the instruments required for the various operative procedures. The recommendations upon the whole are good and accurate, the author has evidently taken a good deal of pains to express herself clearly and succinctly, and the book should prove of value to those nurses for whom it is intended. English nurses engaged in this class of nursing may refer to it with advantage.

Aids to Obstetrics. By SAMUEL NALL, M.B. Cantab., M.R.C.P. Lond. Revised by C. J. NEPEAN LONGRIDGE, M.D. Vict., F.R.C.S. Eng., M.R.C.P. Lond. Seventh edition. London: Baillière, Tindall, and Cox. 1909. Pp. 193. Price 2*s.* 6*d.* net.—Dr. Nall's "Aids to Obstetrics" is too well-known a book to require much notice on our part. It has been of assistance to hundreds of students, and although as a rule we do not regard with favour cram-books of any kind, yet so long as a demand exists for them it is important that it should be satisfied so well as it is by this little book. In the production of this the seventh edition the author has secured the coöperation of Dr. Nepean Longridge, and the book appears to have been revised well and brought up to date.

JOURNALS AND MAGAZINES.

The Quarterly Journal of Microscopical Science. Edited by Sir Ray Lankester, K.C.B., F.R.S., with the coöperation of Adam Sedgwick, M.A., F.R.S., Sydney J. Hickson, M.A., F.R.S., and E. A. Minchin, M.A. With lithographic plates and text figures. London: J. and A. Churchill. New series, No. 211 (Vol LIII.), Part 3. May, 1909. Subscription per volume of four parts, 40*s.* net.—This part contains the following articles:—1. Studies on the Structure and Classification of the Digenetic Trematodes, by William Nicoll, M.A., D Sc., of the University of St. Andrews, with two plates. Many of these studies deal with new genera and species of this interesting group of parasitic worms. Amongst them are Stephanophiala laureata, found in the intestine of Salmo fari, and S. transmarina in the intestine of Salmo mykiss; Lebouria idonea, in the intestine of Anarrhichas lupus, and L obducta in the intestine of Bairdiella chrysura; Cainocreadium labracis in the intestine of Labrax lupus and Peracreadium genu in the intestine of Labrus bergylta; Fellodistomum agnotum in the gall-bladder and duodenum of Anarrhichas lupus; Steringophorus cluthensis in the intestine of Pleuronectes microcephalus; and Plagiorchis notabilis in the intestine of Anthus obscurus and Motacilla flava; each of these is more or less fully described. A table shows the chief comparative differences between the six genera of Allocreadiinæ. Two plates illustrate the text. 2. On the Anaspidaceæ, Living and Fossil, by Geoffrey Smith, Fellow of New College, Oxford, with two plates and 62 figures in the text. The Anaspidaceæ are shrimp-like animals found in freshwater pools in Tasmania and similar creatures have been obtained from the Permian—carboniferous measures. 3. On the So-called "Sexual" Method of Spore Formation in the Disporic Bacteria, by C. Clifford Dobell, Fellow of Trinity College, Cambridge. The author thinks that, in the disporic forms at least, no real sexual process occurs. 4. Studies on Polychæt Larvæ, by F. H. Gravely, M.Sc., junior demonstrator of zoology in the Victoria University of Manchester, with one plate and three text figures. 5. Some observations on Aciñetaria, by C. H. Martin, demonstrator in zoology at Glasgow University, with one plate and six text figures.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

DRIED EGG AND MILK PRODUCTS

(Casein, Limited, Sheepcote lane, Battersea, London, S.W.)

When food products are dried by such a process that on restoring water to them they appear again to be identical with the natural product they are obviously worthy of attention. A milk powder obtained by the ordinary method of evaporation by heat is no longer milk when water is added to it. The fat is separated amongst other things and the activity of the enzymes is destroyed in the process. The products of Casein, Limited, are, on the other hand, obtained by submitting a fine spray of the liquid to the action of a current of warm air. The result is that the liquid is instantly robbed of its water and a practically dry powder deposits. We found that the milk powder so obtained when treated with water yields practically natural milk again; there is no separation of constituents, the vital entities are not destroyed, and, moreover, the taste is indistinguishable from that of raw fresh milk. So with the egg powder which may be used for all practical purposes with the same success as the fresh egg. We have also examined a sweet whey powder and a powder consisting of the pure protein of milk. Laitproto, as the powdered casein is called, gave the following results on analysis: moisture, 7·80 per cent.; protein, 84·70 per cent.; and mineral matter, 7·50 per cent. The dry substance contains therefore about 92 per cent. of pure milk protein. The milk powder gave the following results on analysis, from which it will be seen that the original milk was of excellent quality and contained a full share of fat: moisture, 1·60 per cent.; mineral matter, 5·50 per cent.; protein, 22·05 per cent.; fat, 34·00 per cent.; and sugar, 36·85 per cent. The egg powder gave the following results: moisture, 4·30 per cent.; mineral matter, 3·70 per cent; protein, 54·00 per cent.; and fats, 38·00 per cent. We regard all these preparations with distinct favour; they are an obvious advance on food preparations dried by the agency of heat above coagulating point.

VIN DE VIE.

(Schweppes, Limited, 64, Hammersmith road, London, W.)

The use of grape juice as a beverage diluted with plain aërated water appears to be growing in favour, and as there is no reason for believing that such a beverage is not entirely wholesome the practice may therefore be commended. Dilute grape juice certainly affords a refreshing and palatable drink, and it appears to have a cooling effect which some ascribe to its acid constituents. Vin de Vie we find has been sterilised by a satisfactory process; it showed no signs of fermentation and therefore of alcohol in appreciable quantity. Search for preservatives was made without success. Our analysis gave the following results: alcohol, a trace; extractives, 16·95 per cent.; tartaric acid, 0·92 per cent; grape sugar, 15·15 per cent.; and mineral matter, 0·25 per cent. As is well known, grape sugar is the most digestible of sugars and, in fact, may be regarded as a predigested sugar which is fitted for direct absorption into the blood. Grape juice contains, however, other things besides sugar, amongst which are chiefly alkaline salts and a little protein. The juice is probably slightly laxative on this account, a property which has been remarked in the so-called "grape cure." A plentiful supply of grape juice has also been employed with favourable results in pulmonary as well as gastric and intestinal catarrh. It is also recorded that a regimen of grape juice reduces the albumin in albuminuria.

DRY YEAST TABLETS AND POWDER

(Matthaei and Co., 12 and 13, Cullum street, London, E.C.)

The use of yeast in therapeutics is well known, its effect probably depending upon its power to resolve complex bodies into simpler ones. Thus it has been used in cases where metabolism is obviously at fault, as in diabetes mellitus, some physicians assuming that it acts as though it possessed the ferment agents of the gastric and pancreatic juice. It has also been used in acne, eczema, and so forth. For these purposes it is desirable that the yeast should be clean and active, requirements to which we find these preparations comply. They are stated to be prepared from pure yeast by a special cold air process However that may be, we found both the powder and tablets active in their attack on sugar. Under the microscope it was easy to recognise a pure species.

"DE RESZKE" CIGARETTES

(J. Millhoff and Co., 17, Down street, Piccadilly, London, W.)

We are informed that these cigarettes have been prepared at the suggestion of the famous tenor whose name they bear. The result has been a blend of tobaccos which it is stated is free from irritating qualities even with delicate throats. According to our examination the tobacco in the one case appeared to be a carefully selected gain to that body. Mr. BLAND-SUTTON took the diploma of Fellow in 1884. He is surgeon to, and lecturer on surgery at, the Middlesex Hospital. He is well known as a most able surgeon and skilful operator. His contributions to pathology and to gynæcological surgery have been numerous and we think that he, too, would be an acquisition to the Council. There are, however, but three vacancies, and it must not be forgotten that Middlesex Hospital sends already two very able members to the Council Board in the persons of the President, Mr. HENRY MORRIS, and one of the Vice-Presidents, Mr. PEARCE GOULD. This amount of representation is, we think, as much as is justified by the size of the medical school of Middlesex Hospital. We do not doubt that Mr. BLAND-SUTTON will one day be a member of the Council of the College if he is not a successful candidate on this occasion.

Mr. W. H. H. JESSOP, like Mr. BLAND-SUTTON, became a Fellow of the College in 1884. He is senior ophthalmic surgeon to St. Bartholomew's Hospital, and we believe that he comes to the poll rather as an ophthalmic surgeon than as a hospital representative. There are considerable reasons why there should be an ophthalmic surgeon on the Council, and, in fact, for the past 30 years there has always been at least one seat occupied by a surgeon well acquainted with the surgery of the eye. At the present time Mr. RICHARDSON CROSS ably represents this branch of surgery, and although the vote of St. Bartholomew's Hospital can generally carry a candidate we are inclined to think that Mr. JESSOP's candidature on this occasion will not be successful, Mr. CRIPPS being also a candidate. But all the candidates are justified by their professional positions in expecting the support at the poll of the Fellows coming from their own schools, while some of them can rest their claims in a very distinct and notable manner upon a wider basis, so that the electors have a difficult task before them. Of the candidates seeking re-election Sir WATSON CHEYNE should be absolutely secure of success. Of the men who are coming forward for the first time Mr. BALLANCE's candidature appears to us to be the strongest. In the event of Mr. BALLANCE being elected to serve on the Council at the first time of asking, and looking upon Sir WATSON CHEYNE's seat as secure, there would only remain one seat to be allotted among three past councillors, Professor MAYO ROBSON, Mr. CLEMENT LUCAS, and Mr. HARRISON CRIPPS. The vote of St. Bartholomew's men will, then, probably serve to turn the scale between the three, but any one of them may be found above Mr. BALLANCE at the poll, past services rightly reckoning with the electorate.

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Non-Alcoholic Galenicals.

AS we pointed out in THE LANCET of May 29th, p. 1540, the new taxes which will be imposed on rectified spirit if Mr. LLOYD GEORGE'S Finance Bill be passed without amendment in this respect, will throw a grievous burden alike on hospitals and on those medical practitioners who supply medicines to their patients, or who have club practices. The present time may therefore be considered opportune for emphasising the possibility of reducing to a minimum the use of alcoholic preparations of drugs without loss of therapeutic efficiency or of what is known as pharmaceutical elegance. There is no room for doubt that many of the tinctures and other spirituous preparations of the British Pharmacopœia contain substantially more alcohol than is for any purpose necessary, and in nearly all cases the cost of a tincture depends far more on the solvent or menstruum than on the drug employed. Some tinctures are nothing but alcoholic solutions of definite substances—e.g., tincture of iodine, tincture of iron perchloride, and ammoniated tincture of quinine. The spirit in these three preparations can readily be dispensed with. Iodine is freely soluble in an aqueous, as well as in a spirituous, solution of potassium iodide; liquor ferri perchloridi of suitably modified strength may well replace its alcoholic equivalent; and even in ammoniated tincture of quinine the proportion of alcohol can be considerably reduced on the lines of the more agreeably flavoured ammoniated elixir of quinine of the British Pharmaceutical Codex. The majority of the Pharmacopœial tinctures are not, however, solutions of definite substances, but are dilute alcoholic extracts of various crude drugs. In many instances they contain much more alcohol than is necessary for the thorough extraction of the amount of drug which is ordered, and with respect to such no practical pharmacist would experience difficulty in preparing them in concentrated form for subsequent dilution with water. Examples of preparations of this type are the compound tinctures of camphor, cardamoms, gentian, and lavender. The use of the aqueous liquid extract of opium in place of laudanum has for many years been quite common. Tincture of cinchona, as is well known, precipitates on the addition of water, yet even in the case of this drug a glycerine preparation of equivalent alkaloidal strength is readily obtainable. The formula for this galenical is given by the British Pharmaceutical Codex as follows:—

Glycerinum Cinchonæ, B.P.C.

Liquid extract of cinchona	20 00
Tragacanth in powder	0 75
Alcohol	2 50
Distilled water	20 00
Glycerine sufficient to produce	100 00

This is a palatable preparation, much cheaper to produce than the tincture, and eminently suitable for use in a concentrated form. The group of preparations which includes spirit of chloroform and aromatic spirit of ammonia offers in some cases similar opportunities for economy. In St Thomas's Hospital much money has been saved by the adoption of an aqueous emulsion of chloroform—made with the aid of a small quantity of tincture of senega or tincture of quillaia—in place of spiritus chloroformi, B.P. So, again, by the use of oils which are free from terpenes a satisfactory "sal volatile" may be made with an extremely small proportion of alcohol. For many years some well-known manufacturing druggists have used glycerine as a preservative for liquid extract of cascara sagrada in place of the alcohol which the British Pharmacopœia prescribes for the purpose. The glycerine extract is more miscible, less nauseous, and in other respects wholly satisfactory. The list might be considerably extended, but enough has been stated to prove that so far as hospitals and private practitioners are concerned it is a simple matter to escape from at least some of the expense entailed by the increased taxes on spirits. Druggists who live in fear of the inspectors administering the Sale of Food and Drugs Acts are in less fortunate case. With respect to the galenicals which have been mentioned, it may be definitely stated that, given careful preparation, no difficulty need be anticipated as regards their keeping properties or their compatibility with other liquids. A tincture made with glycerine and water has, no doubt, a taste which to many is less attractive than its alcoholic equivalent. But this consideration is quite insignificant when it is remembered that equal therapeutic activity and equal convenience in handling may be secured at a great saving of expense by the avoidance of unnecessary alcohol in liquid preparations of drugs.

Social Betterment in America.

AMONG the many services rendered by ex-President ROOSEVELT to his country, few are likely to have a more abiding influence upon its welfare than the impetus which he has given to the cause of sanitary and social reform; a cause only second in its importance to the moral cleansing which he at least began to introduce into the conduct of mercantile and of municipal affairs. The District of Columbia, in which the city of Washington and the Presidential residence and offices are situate, is entirely independent of State legislation; and the city has been suffered to grow to its present magnitude in a somewhat haphazard manner, the effects of which were greatly aggravated after the civil war by the number of emancipated coloured people who sought refuge and a maintenance within its boundaries, and who were quite willing to disregard many of the ordinary requirements of decent and civilised life. In order to meet the wants of this class a number of flimsy tenements seem to have been erected upon ground originally intended to be reserved as the curtilages or gardens of better houses, and blind alleys of the same description were built up in the central spaces of what once were squares, with the general effect of crowding the city, even in the immediate neighbourhood of the best class of its habitations, with a series of slums and an aggregation of slum dwellers to which it would not be easy to find a parallel elsewhere. When Mr. ROOSEVELT became an official resident in Washington his attention was called to the various evils which had been suffered to come into existence there, and he appointed a Commission charged to inquire into the facts, and to recommend or apply such remedies as circumstances might permit. This Commission consists of 15 members, among whom there is a large medical element, and it resolved itself into special committees for the better conduct of the work entrusted to it. The reports of the Committee on Housing, of the Committee on the Building of Model Houses, of the Committee on Industrial and Personal Hygiene, and of the Committee on Social Betterment have just reached us, and we have only admiration for the spirit in which the various evils which these committees were appointed to encounter have been attacked, and for the good sense by which their acts and recommendations are characterised. The first three reports deal chiefly with matters which are occupying more or less the attention of all civilised communities, and to which, therefore, many parallels may be found elsewhere; but the report of the Committee on Social Betterment strikes us as being rather distinctively American in its character, and as dealing with subjects which elsewhere there has been too much tendency to ignore, or at least to regard as lying somewhat beyond the scope of public or official intervention. We would invite attention to some of its more distinctive features.

Perhaps one of the most characteristic of these is an elaborate inquiry into the amount of injury which is inflicted upon the community by the prevalence of the "*drug habit*," and, indirectly, by the activity of the makers and advertisers of the quack medicines by which this habit is largely created and fostered. It is said that during the last nine years 256 patients have been treated in the Columbia hospitals for the opium habit and 62 for the cocaine habit; while a large number of pharmacists report extensive sales of the alcoholic preparations of opium, such as McMunn's elixir, Squibb's mixture, and other proprietary or secret medicines containing opium. A list of no less than 38 largely advertised preparations, depending for their activity upon morphia, cocaine, or chloral, is furnished; and one at least of these, Mrs. Winslow's Soothing Syrup, which is said to owe its activity to morphia, is freely advertised in this country. We read also of extensively advertised "soft drinks" containing caffeine, extract of kola nut, and extract of coca leaf, "many of them sold at nearly every soda-water fountain or as carbonated goods without any warning to the public of the harmfulness of the ingredients which they contain." Another form of the same evil is the fact that a large number of "cures" for the drink habit or the opium habit are advertised by various charlatans, and that nearly all of them contain large quantities of morphia. Mr. SAMUEL ADAMS is quoted as having published a list of 16 advertised cures for the opium habit, all which contain morphia, and which have no other object than to substitute, for slavery to the drug obtained from the pharmacist, slavery to the same drug disguised, and purchased at a larger price from the "doctor," or "institute," or "society." "The Sunday newspapers and small weeklies teem with advertisements of drink cures, all of which are swindles." The report passes on to consider the effects of antipyrin and its analogues as advertised cures for headache, and of thyroid extract as a cure for obesity, saying, among other things, that 1665 cases of more or less serious poisoning, 54 of death, and 169 of "habitual use" were traced to the advertised headache remedies by a very moderate amount of inquiry. One of these "remedies," containing acetanilid and antipyrin, is advertised as Harper's "Curforheadake Brane Fude," an ingenious perversion of spelling which was declared by an American judge to be "misleading and therefore a violation of the law." Another important section of the report deals with the numerous proprietary medicines which are advertised in such terms as to suggest that they will produce abortion, another with the infanticide resulting from the systematic drugging of children, and others with "cures" for diphtheria, consumption, catarrh, cancer, rheumatism, epilepsy, and other forms of prevalent disease. Altogether, we learn that there were existing in the United States in 1900, [illegible] "patents" dependent opening was made in the perineum for drainage. The patient was placed in the lithotomy position and a full-sized median grooved staff was passed. On incising the perineum the finger entered a considerable cavity below the pubic arch to the right of the urethra, which was intact. A second tear in the bladder was then found, a large rent below and to the right of the neck. By inserting a large drainage-tube into this opening it was found possible to drain the bladder without interfering with the urethra. This was accordingly done and the operation was completed by passing a drainage-tube through the hypogastric incision into the upper tear and closing the remainder of the wound. The bones were approximated by pressure on the hips, the pelvis was strapped with a strip of plaster, and the knees were tightly tied together. No constitutional disturbance followed. The suprapubic tube was removed on the tenth day and the track slowly closed with a little suppuration. The perineal tube was left in for three weeks. A week after its withdrawal the patient micturated normally. A small urinary fistula persisted in the perineum for a few weeks, and healed completely in about three months. The patient made a complete recovery. Mr. Russell has not been able to discover any record of a similar accident, nor of any double rupture of the bladder, however produced. The escape of the urethra from injury was astonishing. A striking reflection is that the recovery from this severe injury was more complete and the ultimate loss sustained by the patient was much less than would have resulted from a relatively trifling blow on the perineum sufficient to damage the urethra.

GRINDERS' PNEUMOCONIOSIS IN SHEFFIELD.

THE dangers that result from dusty occupations have been long recognised, and among these the work of grinding edged tools holds an unenviable pre-eminence, probably owing to the irritating qualities of the particles of stone and steel which are here inhaled. We therefore welcome the inquiry which has recently been held by a Commissioner representing the Home Secretary into the question of the feasibility of laying down a scheme of regulations for the control of works in which the operation of grinding is carried on. The inquiry was held at Sheffield, the chief seat of the cutlery trade, and some striking evidence was given by Dr. Harold Scurfield, the energetic medical officer of health of the city, who has done much to call attention to the magnitude of the evil. He showed that the death-rate from phthisis is 15 per 1000 among grinders, whereas it is only 2·6 among males over 20 throughout the rest of the population; while the death-rate from other diseases of the respiratory organs is 5·6 per 1000 among these workers as compared with 2·1 among the general population. Among cutlers, whose work is less dangerous, the death-rate from phthisis is still 6 per 1000, and that from other respiratory diseases 7 per 1000. Two out of every three grinders die from consumption or other respiratory disease. Dr. Scurfield stated that he had paid a visit to Solingen in Germany, where similar work is done, and found that a great improvement in the health of the workers had resulted since a system of exhaust ventilation had been adopted, whereby the dust was removed as it was formed; and it is legitimate to hope that the same system may be inaugurated in this country. It is satisfactory to note that the employers through their representative at the inquiry evinced their willingness to coöperate heartily in any measures that might be found advisable. A curious point was brought out in the evidence given by Dr. E. L. Collis—namely, that the percentage of ill-health among the wet-grinders is slightly greater than that among the dry-grinders, although it might have been supposed that the laying of the dust by water would have prevented the occurrence of respiratory disease. It was suggested that here the evil resulted from the habit of tuberculous workmen of spitting into the trough in which the grindstone worked, and the consequent dissemination of the bacilli in the spray produced. This point appears to need further investigation. Throughout the inquiry it was impossible not to be struck by the difficulties introduced into the investigation by the application of the word "phthisis" to both tuberculous and simple fibroid disease of the lungs. It is most desirable that some word should be introduced to represent the latter condition, and as "pneumoconiosis" is too cumbrous for general use it might be suggested that "coniosis" or "coniasis" might be adopted, since it is on the lungs alone that the danger of dusty work falls and the prefix "pneumo" is not needed to distinguish this from other conioses.

MEDIÆVAL HOUSES AND PHTHISIS.

PULMONARY tuberculosis has been suggested by Mr. John Burns to be the result of social inequality, and this is true in the sense that those on the lower rungs of the social ladder, in addition to being badly fed and housed, inherit habits which make for the propagation of disease. The habit, almost universal amongst the poor in the remote Highlands of Scotland as well as in London slums, of keeping shut all windows and apertures through which the cold outer air may penetrate into their dwellings, is probably a relic of the time when the drenched serf or hunter crept back to his hut from the damps and fogs without, and, like an Eskimo, tried to forget the cold of the outer world in the lulling stuffiness—which was not necessarily warmth—of his domestic interior. The hut of primitive man was at first round, and as it passed through various stages of development to the square or oblong shape now universal, it never ceased to abound in dark nooks and sunless angles where disease germs, especially those of phthisis, might be harboured or bred. Before the days of glass, windows were at best small apertures. In his interesting "History of the House: the Struggle for Fresh Air and Light," Dr. Gould of Philadelphia expresses the opinion that "the habit of bad houses and of house diseases," following on a faulty method of building, "is the oldest of human habits." And in a series of admirable illustrations of primitive dwellings, from the round stone huts of the monks of Skillig and the oratory of St. Gallerus near Dingle, to "Teapot Hall" at Scrivelsby in Lincolnshire, he shows how unhygienically the early Celts and Saxons were housed. "Teapot Hall," which still stands, is probably a good specimen of an early mediæval dwelling. It is simply a slanting roof standing on the ground, and, as such, resembles the stone oratory of St. Gallerus. Old English serfs in the Middle Ages were perpetually drifting into towns, where they obtained freedom, but they doubtless brought their love of mere stuffiness with them, and as the early mediæval town was mainly built of wooden shanties it must have been designed much on the lines of "Teapot Hall." The roof-shaped cottage, as Dr. Gould shows, only gradually enlarged its proportions, and this it did by throwing out pent-houses, annexes, or oven-shaped constructions, which in their turn were quite elaborately roofed by a new system of rafters springing from the central roof-tree. A barn at Bolsterstone is shown in cross-section, most ingeniously, and at the same time inconveniently, enlarged by the addition of a kind of aisle. Air and light were the last things the old builders sought after. Indeed, they seemed, in countries north of the Alps, to aim at excluding both, even in buildings such as monasteries, colleges, or country-houses where some dignity was sought after. It is easy to conceive what an impetus such a bad theory and such bad buildings must in the Middle Ages have given to every form of dirt disease, but especially to pulmonary tuberculosis.

THE FESTIVAL DINNER OF THE HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

THE dinner in aid of the jubilee fund of the Hospital for the Paralysed and Epileptic was held on June 10th, by permission of the Lord Mayor of London, in the Mansion House. The Lord Mayor presided, and was supported by H.S.H. Prince Alexander of Teck, chairman of the board of stewards. Among those present were Lord Justice Kennedy, Sir William Gowers, Mr. Sheriff Baddeley, the Dean of Canterbury, Sir Felix Semon, Mr. Carl Meyer, and many members of the medical staff of the hospital. The chairman, in proposing the loyal toasts, mentioned that His Majesty the King had consented to visit the hospital on Nov. 4th to open the new buildings, and that the Princess of Wales had consented to visit the hospital in October to receive purses. The Lord Mayor then proposed "Success to the Jubilee Fund." In all some £50,000 were required for new buildings, especially for a new nurses' home He laid stress upon the excellent work which the hospital was doing and pointed out that medical men came from all over the world to attend the practice of the hospital. Mr. Frederick Macmillan, the treasurer, responded. Then came the toast of "The Medical Staff," proposed in an admirable speech by Mr. Comyns Carr, who reproached his hosts for putting him down to speak after dinner instead of before. Had the latter been the case he could have said to them what they had so often said to him, namely, "Avoid rich food, be sparing with your alcohol," but now what was the use of saying anything? Sir William Gowers responded. During the course of the evening subscriptions to the amount of £2719 were announced. The final toast was that of "The Chairman," proposed in a graceful little speech by Prince Alexander of Teck.

A FATAL CASE OF POISONING BY ATOXYL.

THE occurrence of toxic symptoms after the use of atoxyl has been observed and recorded in a considerable number of cases, the most serious being those affecting the eyes, such as retinal hæmorrhage, amaurosis, and optic atrophy. Koch observed 22 cases of blindness after its use in the treatment of 1633 cases of sleeping sickness. In addition to these ocular effects various symptoms have been frequently observed, including malaise, attacks of vertigo, insomnia, dryness and irritation in the throat, pains in the limbs, and various paræsthesiæ. In some cases slowness of the pulse and even anginal attacks have occurred, while anorexia, vomiting, diarrhœa, and jaundice indicate its effects on the digestive system. Albuminuria, nephritis, and painful micturition have also been described, as well as various cutaneous lesions. These toxic effects are analysed in a paper (published in the Munchener Medizinische Wochenschrift of May 11th) by Dr. Heinrich Schlecht, of Professor Strümpell's clinic at Breslau, and details are given of a case in which the administration of atoxyl was followed by death. The patient was a butcher, 28 years of age, who developed a chancre in November, 1907. Apart from an attack of enteric fever ten years before, he had always had good health. There was no history of epilepsy or of alcoholism. Ten weeks after the development of his chancre a maculo-papular rash appeared with condylomata at the anus. He was then treated by mercurial inunction for three weeks. A little later he was given five grammes of potassium iodide daily by the mouth and received four injections of 0·1 gramme of salicylate of mercury subcutaneously. After a further interval of six days, during which the patient felt well, atoxyl was given in four separate doses of 0·6 gramme spread over a period of eight days, the total quantity given being therefore 2·4 grammes The day after the last injection the patient became seriously ill with malaise, anorexia, vomiting, and sudden rise of temperature. Within a few hours epileptiform attacks supervened, with tonic and clonic spasms and complete loss of consciousness. The pupils were sometimes contracted, sometimes dilated, and insensitive to light. The tendon reflexes, which were at first abolished, later became exaggerated, and a Babinski reflex was obtained on both sides. A high degree of cyanosis supervened, respiration was sometimes deep, at others rapid and superficial, while during the fits breathing would cease for considerable periods, to be followed by markedly dyspnœic respiratory movements. The heart's action became very weak, the pulse rapid and small. The urine contained albumin and casts. Examination of the blood showed a marked leucocytosis and some polycythæmia. Death occurred in one of the epileptiform attacks. At the necropsy the heart muscle showed degenerative changes, and there was marked œdema of the lungs. The liver showed fatty and necrotic areas, and there were signs of marked destruction of red blood corpuscles both in the liver and spleen. The kidneys were large, soft, flabby, and congested. In the central nervous system the only changes observed were local proliferations of the neuroglia in the cortex and recent degenerative changes in the vessels. Dr. Schlecht inveighs strongly against the use of atoxyl for syphilis, blood diseases, and skin lesions for which ordinary methods of treatment are available. He suggests that there may be in some persons an idiosyncrasy to atoxyl, since toxic symptoms are on record after comparatively small doses, and he recommends the utmost care in its use. He gives no details of the source of the atoxyl used in the case he records. From the literature it would appear that some samples of atoxyl more often give rise to toxic symptoms than others, and it is possible that some impurity may be the cause of some of the serious effects observed. It is obviously of the utmost importance that the substance should be free from arsenates, and that it should contain its arsenic in the form of arsonate. Dr. Schlecht's case is a further indication that atoxyl is a drug which must be used with great discrimination, and that its effects must be very carefully watched.

A SERIOUS CASE OF MILK ADULTERATION.

THE North-Eastern Dairy Company, Limited, of Durham-road, Holloway, was recently fined £100, with £21 costs, at the North London Police-court for selling milk which contained 6 per cent. above the normal proportion of water. The conviction took place after the summons had been adjourned for further evidence, and on the second day a witness very damaging to the defendants was produced He was a man who had been in their employment and in that of their predecessors, a company entitled the Callow Park Dairy Company, for 25 years, and he deposed that on the day named in the summons he received and obeyed written instructions from the branch manager to put from four to six quarts of "separated milk" into churns containing pure milk. The circumstances which caused Mr. D'Eyncourt to impose the heavy fine mentioned were stated by him as follows: "At the first hearing the company had pleaded warranty of the milk to them by the farmer, and had put their servants into the witness-box to swear that it had not been tampered with by them. Consequently, if the man mentioned had not come forward and confessed, the case would probably have been dismissed, and the blame for the condition of the milk would have been cast upon the farmer who supplied it." In this connexion the learned magistrate observed pointedly that it was open to the Islington borough council to take further proceedings with regard to the witnesses whose evidence had been discredited. It may be added that four previous convictions for similar offences were proved and that the company was stated to have been fined on one occasion no less than £50 at the Thames police-court. In THE LANCET of June 12th will be found the text of the principal provisions of Mr. John Burns's Milk Bill directed against tuberculosis, from which it will be seen that the President of the Local Government Board proposes that all dairies (including dairy farms) shall be registered, and that Subsection 3 of Section 1 is as follows: "On the second or subsequent conviction of a dairyman of an offence against this Act or the orders made thereunder the court by which he is convicted may ...... order that the name of the offender be removed from the register of dairymen either absolutely or for such period as may be specified in the order." This subsection does not apply, and might usefully be made to do so, in cases outside the general scope of the Bill, which is directed against the sale of milk likely to be infected with disease. It is suggested, however, by the case of the North-Eastern Dairy Company, Limited, that unless care is exercised the limited company may lend itself to covering infringements of the new law relating to the sale of milk, so far as the penalty which consists in the removal of an offending dairyman's name from the register is concerned. Presumably, in the case of a company he will be a manager or servant for whom another can easily be substituted, and it may be suggested that the absence from the Bill of any direct recognition of the milk trade as conducted by companies may tend to weaken its practical application in the future.

TYPHOID CARRIERS.

THE important part played in the dissemination of enteric fever by persons who act as "carriers" of infection while themselves no longer suffering from the disease is now well established, as the Secretary of State for War recently explained in the House of Commons. A difficult problem is presented in the question as to how the danger thus arising is to be met. Any attempts made in this direction must be watched with the greatest interest. We have recently received a copy of a notice issued by Dr. D. S. Davies, medical officer of health of Bristol, which is aimed at this mark. It consists of two parts —one addressed to hospital physicians and others who have cases of enteric fever under their care, and the other to the convalescents themselves. Physicians are urged to keep a register of their patients and to endeavour to secure their periodical attendance for examination after they have been discharged from hospital. Patients who have suffered from the disease are warned of the danger which may still exist of disseminating infection and instructed to use special care and cleanliness in preparing food for others. The idea in both cases is excellent, but we cannot help fearing that difficulties will arise in carrying it out. In the first place, many patients will not wish for the trouble of reporting themselves at intervals, even during a period of six months as here recommended. Still less will they wish to bring up specimens of excreta for examination. Secondly, to make certain of finding the bacilli, if they are still present in the biliary passages, somewhat frequent examinations would seem necessary, as the organisms appear to be eliminated only at intervals in many cases. Thirdly, and this appears a point of special difficulty, what is to be done with a person who still harbours the bacilli? If he is not in any way ill himself he will certainly resent any attempt to immure him once more in hospital, and if such were insisted upon, patients would be very unlikely to present themselves for examination after discharge. Yet without such detention effective supervision and treatment would be difficult. Further, the means of disinfecting the biliary passages at present available are not, so far as we know, at all thoroughly ascertained, but in this connexion we refer our readers to an interesting paper by Dr. P. J. Cammidge on pancreatitis as a sequel of typhoid fever which will be found on p. 1739 of this issue of THE LANCET. It will on many grounds be especially interesting to note the results obtained in Bristol in dealing with this source of infection, and we can only hope that such success may attend the procedure as to encourage other localities to inaugurate a similar policy.

THE INCIDENCE OF PHTHISIS IN CALCUTTA.

WE have received a reprint of a paper[1] read by Dr. T. Frederick Pearse, health officer of Calcutta, before the Medical Section of the Asiatic Society of Bengal on the incidence of pulmonary tuberculosis in Calcutta. He alluded to the difficulty in obtaining statistics in regard to the general population for any part of India, except possibly Calcutta and the city of Bombay, since the recorded causes of deaths are merely those given by the friends and relatives at the burning ghats and burial grounds. The death-rates for pulmonary tuberculosis given by the Sanitary Commissioner with the Government of India are 0·17 per 1000 for the British army, 0·52 for the native army, and 3·21 in the jails. In Calcutta the officers of the Plague Department make inquiries into the deaths occurring in that city, and the mortality statistics of the city are corrected according to the information obtained. From a study of the figures since 1905, the year in which they were first available, Dr. Pearse finds that the death-rate from tuberculous disease averages 2·5 per 1000. A further analysis of the figures shows that the rate among males is only 2 per 1000, that for females being 3·5. Another interesting fact elicited is that the death-rate among Mahomedan females is 5·8 per 1000, as compared with 3 per 1000 among the Hindu women. These figures are much higher than those for England and Wales, where the general death-rate for the period 1901–05 was 1·9 per 1000. The high mortality among women in Calcutta is attributed to the conditions of life, notably to the deficiency of fresh air. Dr. Pearse's figures should serve to draw attention to this subject with a view of improving these conditions and lessening the mortality.

TUBERCULOUS MEAT.

WE have received a copy of a pamphlet on the subject of tuberculous meat published by the Public Health Department of the Corporation of London, with the object of rendering widely known, more especially to those concerned in the supply and sale of meat, the indications of tuberculosis both in the carcass and in the living animal. The Corporation of London has for many years past instituted legal proceedings against farmers, butchers, and other persons sending diseased or unwholesome meat into City markets, or for exposing it for sale. It appears that in many instances the offence is due to gross carelessness, but sometimes to ignorance of the symptoms and appearances of tuberculous disease. In order to supply the necessary information as to these matters, Dr. William Collingridge, the medical officer of health of the City of London, contributes to the pamphlet a description of the signs of tuberculosis in the carcass and organs. He describes in popular or butcher's language the appearances of tuberculous lesions in beef and pork, especially those in the glands and in the lungs, as well as those of pleural and peritoneal adhesions. He cautions butchers against the process of "stripping"—i.e., removal of "skin" from the inside of the ribs or flanks with the view of removing the signs of disease—and points out that the Local Government Board has ordered that "stripping" in the case of foreign dead meat shall be sufficient reason for condemnation. The symptoms in the living animals are detailed by Mr. James King, veterinary inspector to the Corporation of London; the symptoms of pulmonary disease are given and the characters of lesions of the udders are outlined. The owner of cattle which present the symptoms described is recommended to seek the advice of his veterinary surgeon. An extract from leaflet No. 100 issued by the Board of Agriculture and Fisheries (revised, May, 1907) is also given describing the characters of tuberculosis in pigs, giving warnings against feeding the animals on refuse milk and diseased offal from tuberculous cattle, and recommending improved sanitation and periodic disinfection of premises where pigs are kept. Some of the sections of this pamphlet are dated 1903, but it appears to have been re-issued with the addition to which reference has just been made. It is a very useful and instructive little document and one which cannot be too widely circulated amongst those for whom it is written. We gather that copies can be obtained on application to the town clerk at the public health department at the Guildhall.

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[1] Indian Medical Gazette, No. 4, April, 1909.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

THE principal amounts received at the Mansion House or notified directly to us as having been collected on behalf of the Fund up to Tuesday evening last are a little below previous receipts; but the collections of smaller size show no abatement, and the total is about the same as it was last year at this date.

THE King has given to Mr. Arthur Andrew Morrison, M.D. Aberd., surgeon to the Deaconesses' Hospital at Alexandria, His Majesty's Royal licence and authority to accept and wear the Insignia of the Fourth Class of the Royal Order of the Crown, conferred upon him by the German Emperor.

THE Prince and Princess of Wales, as President and Lady President of the League of Mercy, have issued invitations to a garden party at Marlborough House on Wednesday, July 7th, at 4 o'clock.

Dr. William Stirling, Professor of Physiology in the University of Manchester, has been elected a foreign corresponding member of the Reale Accademia di Medicina of Turin.

THE NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS

(Continued from p 1711)

LAST week we described the very practical exhibition which under the auspices of the National Association for the Prevention of Consumption and other Forms of Tuberculosis has been held during the past fortnight at the Art Gallery, Whitechapel. It remains to give some account of the conference and lectures which have been given in connexion with the exhibition.

The public has, we believe, now realised the necessity for combating the terrible scourge which, it is calculated, exacts a death-toll from the world of 5,000,000 every year; for, to put it in Mr. Burns's striking way when he opened the exhibition on June 2nd, "a London perishes *annually from one disease, tuberculosis.*" We in this country, where the figures are steadily and greatly improving, lose a population equal to that of York London alone has 9176 deaths from tuberculosis, which means that more people die from consumption during any one year than officers and men were killed in the South African war. One of the most satisfactory parts of Mr. Burns's opening speech was the statement that he was there on behalf of the Prime Minister especially to identify him and the Government with the National Association in the good work which it was undertaking. His own department, he said, was doing its portion of the public work. It had issued a monumental report by Dr. H. T. Bulstrode, and what that report had not done he thought the book of his present chief medical officer, Dr. A. Newsholme, had secured. The Food Protection Regulations Act had done a great deal to stop unsound meat coming into this country, and he believed that by a more rigid administration of that Act and the Sale of Food and Drugs Act, through the agency of local authorities, much good would be done. He hoped that before this session ended the Housing Bill would be on the Statute Book, and he was glad to say that the Milk Bill had been more favourably received than he had hoped for. He trusted soon to follow up the Notification of Tuberculosis Order by a circular to Poor-law authorities on the conditions under which Poor-law relief should be given to outdoor consumptive paupers.

The Annual Meeting.

The tenth annual meeting was held on June 4th and was presided over by Lord BALFOUR OF BURLEIGH, the chairman of the council of the association, among those present being Sir Constantine Holman, Dr. Theodore Williams, Dr. A. Ransome, *Dr. R. W. Philip, and Miss Broadbent. In moving* the adoption of the report the Chairman said that there was no subject more important to the well-being of the nation than the prevention of the ravages of consumption in all its forms. Public attention had at last been arrested and directed to the question, and the association had chosen an appropriate time to hold its exhibition. People were beginning to recognise that there were methods not difficult of adoption by which all forms of pulmonary disease might be successfully combated and many lives saved to the State. Nothing was more remarkable than the awakening of all our Government departments during the past few months in connexion with the subject. The exhibition, he said, brought directly to the attention of those who were principally concerned, in the most conspicuous and helpful manner, the things of which they should take note, and it was a most hopeful fact that on the opening day 5000 people had passed the turnstiles. In no department of medical science had greater strides been made than in the prevention and cure of tuberculosis. The only matter for regret in the council's report was the statement that the publication of its journal had been stopped owing to financial reasons. There was, he said, no institution which did a greater work for the well-being of the population than the National Association for the Prevention of Consumption, and he appealed earnestly to everyone who was interested in the subject to strengthen the hands of the association.

Dr. THEODORE WILLIAMS, vice chairman of the council, who seconded the motion, said that a very satisfactory reduction of consumption had been effected in this country of late years, the death-rate having been reduced to rather less than one-half of what it had been. To abolish the disease from the land might not be possible, as it would imply the abolition of poverty and misery of all sorts and the settlement of the housing question, but he had no doubt that a still further reduction would take place in the future.

In our report of the exhibition we drew attention to some of the more popular exhibits, and said that they had a more potent effect upon the minds of the really poor or ignorant than the scientific part of the exhibition. We are glad, therefore, to know that some of the members of the National Association share our convictions. Dr. R. W. PHILIP, in moving the addition of names to the *list* c [illegible] members of the council, incidentally [illegible] more space should be d [illegible] he question, even at the [illegible] stical aspects. The names of Mr. D. Shackleton, M.P., Dr. Arthur Ransome, Sir J. W. Moore, Professor G. Sims Woodhead, Dr. J. C. Thresh, Dr. Jane Walker, Dr. H. W. McConnel, and Miss McGaw were added to the list of members of the council, and those of Dr. Dawson Williams, Sir Alexander Kinloch, Sir John McFadyean, Dr. Arthur Newsholme (medical officer to the Local Government Board), Mr. J. Patten McDougall (Registrar-General for Scotland), Mr. T. J. Stafford (medical commissioner to the Irish Local Government Board), Dr. J. Niven (medical officer of health of the city of Manchester), Dr. E. W. Hope (medical officer of health of the city of Liverpool), and Professor S. Delépine (professor of pathology in the Victoria University) to the list of vice-presidents.

The Conference.

At the conference, which was held from June 8th to 10th, the subjects of discussion fell under the heads of (1) the Detection of Consumption, (2) the Treatment of Consumption, and (3) the Prevention of Consumption. It was attended by a large number of delegates from public health authorities throughout the kingdom. On June 8th Sir T. Clifford Allbutt, Regius professor of medicine in the University of Cambridge, presided. In opening the discussion, he said that his long professional life extended back to a time when neither a knowledge of the nature of the disease nor an efficient practice of its therapeutics really existed. Scientific knowledge of the treatment of phthisis dated from 1882, when Koch discovered the bacillus of tuberculosis. Referring to the treatment of the disease, he pointed out the need of some degree of segregation for advanced and incurable cases in order that infection might not be spread. Milk, which was an important factor in the transmission of the disease, should be under rigorous supervision as regarded supply and transmission. At the same time he warned his hearers that if costly provisions were too quickly forced upon farmers and dairymen any good purpose would be defeated.

Dr. H. Scurfield, medical officer of health of Sheffield, read a paper on the Compulsory Notification of Tuberculosis and its Value. In it he described the procedure which had been adopted at Sheffield. For the examination of sputum arrangements were made by the corporation with the bacteriological department of the University of Sheffield. On the first visit of an inspector to a house where a case was notified, a history of the case was obtained and a paper detailing advice was given to the sufferer. The poorer classes were supplied with pocket spittoons. The case was revisited at regular intervals and where found necessary the apartment or apartments were disinfected. Hospital accommodation was provided for both male and female patients. This served three purposes: (1) it educated the patients; (2) it gave the relatives a rest and an opportunity of thoroughly disinfecting the home; and (3) it enabled suitable cases to be selected for sanatorium treatment. Treatment on sanatorium lines was also given in the Sheflied Royal Infirmary and in the workhouse hospitals. He found no opposition to notification. One point upon which he laid great stress was that patients should be taught to clean their own spittoons and generally to help themselves, as in many sanatoriums everything was done for patients, with the consequence that when they left these institutions and returned home they were quite helpless.

On the same day Dr. Philip read a paper on the Dispensary System, and Miss Cummins, lady almoner at St. Thomas's Hospital, a paper on Consumption and Hospital Out-patient Departments.

On June 9th Dr. Arthur Latham, physician to St. George's Hospital, opened a discussion on the Sanatorium. He pointed out that more coördination was needed in the organisation of sanatorium treatment, and he thought it would be better to build sanatoriums for large numbers of people rather than to have a great number of small institutions scattered up and down the country. He commended the insurance system adopted by post-office employees and hoped the scheme would be extended to industrial concerns.

Dr. M. S. Paterson (Frimley Sanatorium) said that the real test for the sanatorium treatment of a patient was his general condition. It was a mistake to think that early cases were necessarily the most suitable for sanatorium treatment. A man with extensive disease who had been able to maintain himself for two years and still remain in good condition had a better right to treatment in a sanatorium than one in an earlier stage of better physique with no stamina. Dealing with the subject of graduated work for patients, he said that great care was necessary in the selection of patients. In the system adopted at Frimley a commencement was made by walking exercises of gradually increasing distances, basket carrying followed, and later the use of tools of gradually increasing weight. The tests for the higher grades of work were a satisfactory temperature, good appetite, and a general sense of feeling well. Physical improvement had a psychological effect; sullen and apathetic persons became transformed into lively and cheerful individuals. It was most important that the work should have a definite object, as patients hated nothing as much as work which was of no practical utility. Patients with a temperature of 99° F. and a headache required absolute rest. If while working the temperature rose to 99° or over, the patients should be put to bed. Those on light work often did not improve rapidly because the work was not hard enough to bring about its good result; with slightly harder work improvement followed in many cases.

Dr. Jane Walker, medical superintendent of the East Anglian and Maltings Farm Sanatorium, Nayland, described the work done in the institution. In her experience the rest treatment in sanatoriums was demoralising and she insisted on work for both sexes. At Nayland, in addition to domestic tasks the work consisted of lace-making and gardening.

Dr. H. W. McConnell (Matlaske Hall, Norwich) contributed a paper on the After-Care of Sanatorium Patients.

The Lord Mayor of London, who presided on June 10th, introduced further discussion by saying that nothing had conduced to the increase of consumption more than ignorance.

Dr. Duncan Forbes, medical officer of health of Brighton, read a paper on the Sanatorium as an Educational Agency.

Dr. E. W. Hope, medical officer of health of Liverpool, discussed the right connexion of the municipality with the prevention of consumption. He showed how by improving the housing conditions in the city of Liverpool tuberculosis had been successfully combated. Quoting the report of a special commission of inquiry which was held 60 years ago into the health of the great towns of England, he said that from a sanitary point of view Liverpool was then behind all other towns. From that time onward Liverpool had been the seat of war against tuberculosis. The report referred to showed that 100,000 persons in Liverpool were living in houses totally unfit for human habitation, 40,000 living in cellars. Nothing could be more useful or instructive than the study of the difficulties encountered in remedying this state of things, from which it would be seen that the gradually increasing diminution of the evils was accompanied by coincidental decline of tuberculosis. Some 2000 dwellings had been erected in Liverpool upon sites of areas on which insanitary dwellings had been destroyed, and these dwellings had been reserved only for the people dispossessed. In 1907–08 the phthisis mortality rate in the corporation buildings was 1·35 per 1000, actually lower than that of the city taken as a whole. Besides those houses designed for the very poor, 1400 well-constructed four-roomed cottages under £12 a year rental had been erected in the last seven years by private enterprise on the outside of the city, and 5000 houses at a rental of between £12 and £18. In all these houses the amount of phthisis was extremely small. Since 1864 the number of insanitary houses demolished by the corporation was approximately 8000, at a total cost, including schemes in hand, of £919,084. The work of the Liverpool corporation in this matter necessitated a large staff for the purpose of enforcing regulations, but breaches of the law had become less and less frequent, and it was quite clear that time, patience, and knowledge could satisfactorily improve the most insanitary conditions.

Dr. J. D. Stanley (Birmingham) gave an interesting description of the municipal sanatorium belonging to the Birmingham corporation which had been built on the Cotswold Hills.

Dr. J. E. Squire, C.B., speaking with regard to tuberculosis in schools, said that infection could be rarely traced to the school. The real cause was the home, and school authorities should have some power in controlling infection from that source. Parents ought to recognise their responsibility and give something in return for free education. Something in this way they could do by looking after their children better.

On the afternoon of June 10th there was a demonstration of Meat Inspection by Mr. J. King, chief veterinary inspector at the Metropolitan Cattle Market, and during the period that the exhibition has remained open popular evening lectures have been given by Professor Sims Woodhead, Dr. Hector Mackenzie, Dr. Theodore Williams, Dr. Frederick Rose, Dr. Newsholme, Dr. Nathan Raw, Mr. P. M. Short, and Mr. C. Garland.

Up to the time of going to press more than 50,000 persons have passed the turnstiles.

SANITATION IN INDIA.

VII.[1]—LUNATIC ASYLUMS.

Bengal.

Colonel R. Macrae, I.M.S., the Inspector-General of Civil [illegible] the lunatic [illegible] atics in the [illegible] n Dec. 31st the number was [illegible]. The admissions numbered for the year 181, or seven less than in 1906. The numbers discharged were 104, against 136 in 1906. This decrease in the number of the discharged is attributable to the survival of a large number of chronic cases at the Berhampore asylum who will never be fit for discharge. The total number discharged cured fell off mainly for this reason from 89 in 1906 to 69 in 1907, the percentage of recoveries on daily average strength being 10·76 and 8·12 respectively. However, the result compares favourably with the rate of recovery in English asylums, which, after excluding the statistics of the idiot establishments, was 8·31. With respect to the sickness and mortality, the total number of hospital admissions fell from 850 in 1906 to 555 in 1907, the largest reduction taking place at Berhampore, many sanitary [illegible] rried out at the asylum during t[illegible] has been remodelled, whilst at [illegible] ector-General closed-in verandah [illegible] ıp and doors removed, [illegible] ments resulted in the better state of general health was shown by the fact that the female inmates did not share in this improved health, but, be it remarked, the portion of the old asylum which they occupy was not readily susceptible of much improvement. At Patna the admissions rose from 119 in 1906 to 152 in 1907. Bowel complaints were more than twice as common in 1907 than in 1906. The Inspector-General during his annual inspection, however, noticed defects in the drinking water. These have since been remedied, and in consequence the superintendent reports a noticeable reduction in this class of disease. At Berhampore the bowel complaints showed a decided falling off, the admissions being 31, against 101 in 1906. This was due to the improvements mentioned above, and also to the fact that the patients were regularly examined and treated for intestinal parasites. Tuberculous phthisis as usual accounted for a large number of admissions. Lunatics all the world over are, however, extremely liable to phthisis. Fever was less common, there having been 185 cases, against 267 in 1906, this favourable result being probably due to the prophylactic issue of quinine during the unhealthy months. The total deaths on daily average strength was 8·94 per cent., against 10·27 in 1906, and 9·19 in 1905. This death-rate was lower than that of the asylums in Eastern Bengal and Assam, United Provinces, the Punjab, and Madras, and was even less than that recorded in 1906 in the county and borough asylums in England (10·11).

With reference to the form of lunacy with which the asylums had to deal, mania was the most frequent, furnishing 54·08 per cent. of the cases. Melancholia accounted for 20·92 per cent. Other forms were those of general paralysis of the insane (one case), mental stupor (two cases), and delusional insanity (three cases). Physical causes accounted for 41·84 per cent. and moral causes for 12·24 per cent. of the admissions, whilst the cause was not known in 45·92 per cent. of the cases. 21 cases were attributed to *ganja*. The manufacturing department of the jails of the province was engaged in road-making, carpentering, and basket-making. The Inspector-General last year suggested the discontinuance of labour in connexion with mustard oil pressing at Berhampore; the superintendent of the jail reports that this suggestion, where carried out, has been decidedly beneficial to the patients who are employed instead on other more suitable and genial occupations. At present schemes for a central lunatic asylum for natives and of another for Europeans at Ranchi are under consideration; both these asylums have been planned on the villa colony system, and if carried out as designed will be superior to any similar institution ever built in Asia. Finally, the Inspector-General acknowledges fully the efforts made by the superintendents to render the lives of the lunatics contented, comfortable, and happy. It must be a pleasure to work under so efficient an Inspector-General as Colonel Macrae, who has succeeded in rendering a most interesting report on a subject that does not lend itself naturally to exciting interest in the average reader. This excellent report concludes with the usual appendices.

Eastern Bengal and Assam.

The statistical returns of the lunatic asylums for this province for 1907 are furnished by Colonel David Wilkie, I.M.S., the Inspector-General of Civil Hospitals, Eastern Bengal and Assam. There are two asylums in the province—namely, one at Dacca, the other at Tezpar. The number of inmates remaining in both asylums on Jan. 1st, 1907, was 472, against 425 in 1906. During the year 104 lunatics were admitted, against 147 in 1906; but though the number of admissions was less, the total population treated was slightly greater, being 576 against 572, whilst the daily average number rose from 454·68 to 475·91. This is explained by the fact that the number under detention at the commencement of the year was larger than in 1906. The number discharged was 55, including three escapes from the Tezpar asylum, as against 72 with three escapes in 1906. Of these, 36, or 7·56, were "cured," 13 were "improved," and three "unimproved" made over to their friends.

As in former years, mania was the chief form of insanity, 73·08 of the admissions being classified under this head; melancholia accounted for 15·38 per cent. Of the total 104 admissions, the causes of insanity were known in only 43 cases, or 41·34 per cent.; in 30 of these 43 cases the cause was physical, and in the remaining 13 it was moral. Amongst the specific causes, *ganja* smoking was by far the most frequent.

Central Provinces.

Colonel P. A. Weir, I.M.S., the Inspector-General of Civil Hospitals, Central Provinces, furnishes this report. As regards the number of lunatics for the year 1907, we find the aggregate total admission in 1907 at Nagpore asylum was 85, of which 34 were males and 51 females. At the Jubbulpore asylum 15 males and one female were admitted. The daily average strength was 317·15, against 298·53 in 1906, the increase of 19 being mostly made up of females who numbered 14 to 5 males. With respect to the disposition of the two sexes, the necessary accommodation being at last completed on July 1st, 1907, all the insane females at Jubbulpore, 36 in number, together with their attendants, were transferred to the Nagpore asylum, and the female side at Jubbulpore thus became available for receiving males. There was slight overcrowding on the male side at Jubbulpore until the transfer of the females. It had since been decided to transfer all the Jubbulpore males to Nagpore so as to give up the former asylum entirely; this, it was hoped, would be possible by October or November of 1908. The provision of the necessary additional accommodation for patients and staff is being proceeded with.

There were 28 cures, 14 at each asylum, against 17 in 1906, and three were discharged improved. The deaths were 26 against 31 in 1906, the chief causes being epilepsy. With respect to the form of insanity exhibited, mania as usual headed the list, amounting to about 75 per cent., melancholia causing 5 per cent., dementia 11 per cent., idiocy 8 per cent., and other forms 1 per cent. C[illegible] or improved as much as 87 per [illegible] With regard to the causation [illegible] causes were assigned; of these, 28 per cent. were attributed to the use of *ganja* and 10 per cent. to that of alcohol.

United Provinces of Agra and Oudh.

The report of the asylums of the United Provinces of Agra and Oudh for 1907 is furnished by Colonel R. D. Murray, I.M.S., Inspector-General of Civil Hospitals, United Provinces. This report shows that the total admissions fell from 328 in 1906 to 273 in 1907, and the total population from 1537 to 1481. There was also a decrease in the daily average strength. The number of cures increased from 124 to 146, the number of deaths fell from 130 to 110, and the daily average sick increased from 90·18 to 99·83. There was a slight increase in the percentage of cures to the daily average strength, but the percentage of cures to admissions rose from 13·33 to 20·67. The percentage of deaths to the daily average strength fell from 10·69 to 9·13. The death-rate in the English asylums during 1906 was 9·85 per cent. on the daily average number resident, so that the asylums of these provinces compare very favourably indeed with those of England.

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[1] Nos. I., II., III., IV., V., and VI. were published in THE LANCET of April 10th (p. 1067) and 24th (p. 1199), May 1st (p. 1269), 15th (p. 1412), and 22nd (p. 1480), and June 5th (p. 1630), respectively.

As regards deaths, the high death-rate of Agra for 1906 of 85 has been reduced in 1907 to that of 49. This number would have still further been reduced to 30 if influenza, which was very prevalent in Agra, had not unfortunately broken out in the asylum in November. The 19 deaths from influenza out of the 62 admitted to hospital occurred during the last six weeks of the year, and were immediately due to the extremely rapid onset of pneumonia. It was treated throughout as an acute infection, and was confined to that section of the asylum where the first case appeared. Amongst the facts noted with regard to this epidemic was the experience that in many cases where the patients survived over the third day symptoms of enteritis supervened. The influenza death-rate was 30 per cent., but, as the Inspector-General points out, it must be remembered with reference to this that the patients were suffering from insanity, which reduces the power of resistance to the disease to the lowest. Of the remaining 30 deaths dysentery accounted for ten. There was only one death from heat-stroke, against 18 in 1906. A great improvement in the health returns of the Benares Asylum has been effected by the reintroduction of the dry earth system of conservancy for the flushing system; the latter was stopped in June, 1907. During the flushing system the health of the asylum remained as bad as it had been since the system was introduced, and 21 deaths occurred during the first six months of the year. With the introduction of the dry earth system the health of the asylum has gone back to its former excellent standard, and though 14 deaths occurred during the second half of the year, some of them contracted their ailments during the first six months, whilst no fewer than six were from causes which were non-preventable. There is now every reason to hope that the asylum has reverted to its former healthy condition. Colonel Murray has furnished an excellent report.

EGYPT IN 1908.

(Concluded from p. 1632.)

Sir Eldon Gorst's report on Egypt in 1908 is so succinctly expressed that compression within the limits of an ordinary review is a task of no small difficulty. In some places the only way to do justice to the author would be by wholesale transcription. All the subjects dealt with are not, of course, topics for discussion in a medical journal, but if all that are unsuitable were to be eliminated in the present case there would nevertheless remain such a mass of suitable topics that adequate notice of many of them would have to be foregone. To continue our detailed notice:—

Hashish.—It is notorious that the employment of Indian hemp as a narcotic and stimulant has long been widespread throughout Egypt, but until lately the efforts of the authorities to prevent or restrict the practice have been perfunctory. The subordinate officials charged with the execution of the repressive measures being for the most part consumers of the drug themselves were by no means zealous in carrying out the more or less half-hearted orders they received. Of recent years, however, a great improvement has taken place in this respect. Hashish is not produced in the country, the supply being introduced entirely by smugglers, and serious attempts to check the introduction are now made at the various custom houses as well as by the coastguard. Sir Eldon Gorst does not state the quantity of hashish that was seized and confiscated in 1908, but in 1907 it amounted to 16,290 kilogrammes, or about 320 cwt., while the previous year the total was 15,380 kilogrammes. The daily dose consumed by a *hashash*, or person addicted to the drug, being comparatively infinitesimal, an idea can be formed of the number of consumers as well as of the magnitude of the trade which can support such drains on its resources. During the three years ending 1908 no fewer than 6095 establishments where hashish could be procured were permanently closed by order of the tribunals, 273 of these dens being the property of Europeans. The proportion of hashish patients to the total number admitted to the lunatic asylum was 8 per cent. in 1908, whereas during the preceding triennium the yearly average was 14 per cent. As Sir Eldon Gorst observes: "This is a remarkable reduction and may be regarded as encouraging, although too much stress must not be laid on the figures for a single year. It would appear to show that an efficient coastguard service, which is to-day almost entirely occupied in preventing the smuggling of hashish, coupled with the adoption of strict police measures in the towns, has succeeded in limiting very materially the facilities for indulging in this lamentable habit." The reduction of hashish lunacy is no doubt a matter for congratulation, but on the other hand the unwonted consumption by the native Egyptian of spirituous liquors affords food for reflection. Formerly the *fellah* was the most temperate of mortals, but unhappily this excellent characteristic is no longer deserved. The drinking habit is in process of formation in Egypt. In the year 1908 hashish caused 36 admissions to the lunatic asylum, but there were 35 due to the abuse of alcohol.

Plague and cholera.—In a short section Sir Eldon Gorst mentions the occurrence of 1511 cases of plague distributed over 142 centres of infection. In 1907 there were 1253 cases in 107 centres. It is now nine years since the present infection of the country occurred, and until 1906 it was practically confined to the Delta and Middle Egypt, where the disease was almost invariably of the bubonic form. When, however, Upper Egypt was invaded it assumed the very infectious and fatal pneumonic form. The concealment of cases is still very prevalent amongst all classes of the population. With reference to this unfortunate tendency Sir Eldon Gorst observes: "In this, as in other epidemics, the success or failure of the measures prescribed by the Government must very largely depend upon this important question of obtaining early information, and it is in overcoming ignorance and prejudice in this respect that the most difficult task of the officers of the Sanitary Department consists." Although cholera was very prevalent last year in the Hedjaz, and subsequently a few cases occurred in the quarantine camp at Tor, no invasion of Egypt took place. The disease was still present in Southern Russia when Sir Eldon Gorst was writing his report, but so far "the pilgrim season had shown no signs of cholera infection."

Village barbers.—One of the most urgent needs for Egypt is the provision of efficient medical aid for the great mass of the population. The medical officers of the Sanitary Department do what they can, but their number is altogether inadequate. The village barber is still the universal refuge in sickness, and it is not too much to say that his ministrations are worse than useless. On this head Sir Eldon Gorst's remarks are so clear and to the point that no condensation of them is possible.

> The office of village barber is an institution of great antiquity in Egypt. Without going into this functionary's history it may be said that his duties consist principally in performing vaccination and various [illegible] births and deaths, and furnish- [illegible] rities. He obtains no remunera- [illegible] small fees from his clients, and his interests are closely bound up with the goodwill of the village Omdeh. The functions and responsibilities which he exercises have not contributed to independence of character or to a sense of duty to the superior authority which appoints but does not pay him. The rank and file of this class are consequently of indifferent quality, and really trustworthy men are few and far between. Last year the experiment was made of utilising the village barbers in connexion with the special measures for dealing with pneumonic plague in Upper Egypt, and a small sum was devoted to paying a few selected barbers in each province, in order to obtain more speedy and trustworthy information than would be furnished by the villagers, and [illegible] suspicious deaths or illness in the [illegible] In most cases the offer of a small [illegible] n all that was required. Reports from the provincial authorities are unanimous in testifying to the advantage of the system, and in recommending its further extension on a permanent basis. It must be admitted, however, that, apart from financial considerations, the general mass of the barbers are not as yet worthy to be taken [illegible] The majority are illiterate, many are [illegible] of indifferent character have bec [illegible] ore desirable candidates.

The second part of Sir Eldon Gorst's report is concerned with the Soudan and is drawn up on the same lines as the first. Under the heading, "Public Health," the writer states that the country has been free from any serious epidemic of infectious disease during the past year, but Dr. J. B. Christopherson reports minor outbreaks of cerebro-spinal meningitis, infectious pneumonia, small-pox, chicken-pox, diphtheria, and dengue, and there have also been isolated cases of kala azar, Malta fever, and blackwater fever. At least five cases of kala azar have been treated in the Khartoum hospitals, and Sir Eldon Gorst much regrets to record the death of Captain Craik, after being invalided to England, a victim to this malady, for which, he adds, no cure has yet been discovered. A medical officer is being sent to study the disease in Kassala where most of the cases have originated. The number of out-patients treated during the year has increased from 94,051 in 1907 to 121,214, that of in-patients remaining at a little over 7000. The arrangement whereby quinine can be procured at post-offices is evidently appreciated by the public, 6350 boxes having been sold in 1908. The new hospitals at Port Soudan and Atbara are practically completed and the new Khartoum hospital should be ready for occupation during the present year. Dr. Christopherson considers that attempts to train native women in nursing have so far proved a failure and that Arab and Soudanese boys make better hospital attendants. In conclusion, Sir Eldon Gorst states that Captain H Ensor, R.A.M.C., has submitted a final and invaluable report to the Soudan Sleeping Sickness Commission, the result of his investigations in the Southern Bahr-el-Ghazal. Captain Anderson, R.A.M.C., who has now succeeded him, will meet Sir David Bruce at Gondokoro in order to confer with him upon the general situation.

We regret to say that Sir Eldon Gorst largely ignores the prevention of disease in his report. He notices most subjects and dwells at great length upon some of them, notably the law and education, but his observations under the heading of public health are not only exceedingly brief, but refer exclusively to the cure of maladies already contracted, and make no reference whatever to the adoption or otherwise of sanitary measures properly so called. It is true that the drainage of Cairo is mentioned, and there is also some allusion to overcrowding and an improved water-supply, but these highly important matters are only lightly touched, and it seems doubtful whether their connexion with prolonged life and a lower death-rate is thoroughly appreciated. No doubt much good sanitary work was done during the year, but we are not told so. That a great deal remains undone is evident from the letters of our Sanitary Commissioner. In Egypt the infant mortality is appalling. We should be glad to learn what has been done towards diminishing it. Are medical officers of health appointed in sufficient numbers, and have they been given power to enforce the requirements of elementary hygiene? Has anything been done to ameliorate the condition of the innumerable *birkets*, which serve alike as dumping-ground for filth of every description and as reservoirs for drinking water? It would be easy to multiply such questions, but the foregoing will suffice. It is high time that persons in authority should learn that nothing on earth is so insanitary as disease, and that the primary object of every true sanitarian is its extinction. Incidentally it is well to cure disease, but the real business of a medical man is to prevent disease occurring. It is better to prevent one case than to cure ten. Not many years ago Egypt was looked upon with suspicion as a place of residence. Insurance companies used to charge extra premiums for permission to reside there. Have the conditions that make for a healthy life improved since the British occupation? Apparently they have to judge by the yearly increasing crowds of visitors; but, on the other hand, the state recorded by our Sanitary Commissioner is, to say the least, unsatisfactory.

THE INDIAN MEDICAL SERVICE: ANNUAL DINNER.

THE annual dinner of the Indian Medical Service was held at the Gaiety Restaurant, London, on June 10th, the chairman being Surgeon-General G. Hay, in the absence of Sir George Birdwood, K.C.I.E., through ill-health. The guests invited were General Sir O'Moore Creagh, V.C., K.C.B., the Commander-in-Chief in India elect; Sir William Church, President of the Royal Society of Medicine; Mr. Henry Morris, President of the Royal College of Surgeons of England; Mr. Austin Low; Dr. Squire Sprigge, the Editor of THE LANCET; and Dr. Dawson Williams, the Editor of the *British Medical Journal*. The following officers were present:—

Surgeon-Generals.—P. H. Benson, A. M. Branfort, C.I.E., W. R. Browne, C.I.E., J. Cleghorn, C.S.I., J. P. Greaney, L. D. Spencer, P. W. Sutherland, and B. Williamson.

Colonels.—W. E. Cates, D. E. Hughes, C. H. Joubert de la Ferté, H. G. L. Wortabet, and W. A. S. Wynne.

Lieutenant-Colonels.—W. G. Alpin, N. L. Bartholomeusz, A. T. Bown, W. J. Buchanan, Sir R. H. Charles, K.C.V.O., A. Duncan, G. A. Emerson, P. J. Freyer, G. H. D. Gimlette, H. Herbert, R. A. K. Holmes, E. R. Johnson, D. F. Keegan, S. Little, C. C. Manifold, R. J. Marks, C. Monk, J. Moorhead, J. O'Brien, A. Stephens, T. W. Stewart, A. W. F. Street, C. M. Thompson, W. H. Thornhill, D. Warliker, G. Waters, A. H. Williams, and F. W. Wright.

Majors.—H. Bamfield, A. E. Berry, J. F. Blood, C. Bowle-Evans, W. S. Caldwell, C. F. Fearnside, J. Fisher, P. C. Gabbett, G. G. Giffard, C. H. James, A. J. Macnab, W. Selby, D.S.O., G. B. Smith, F. W. Watling, C. G. Webster, and E. H. Wright.

Captains.—W. R. Battye, F. F. Elwes, G. King, J. T. Leary, R. A. Lloyd, J. L. Lunham, J. H. Murray, W. S. Patton, A. E. H. Pinch, M. F. Reaney, W. S. J. Shaw, G. Tate, and M. H. Thornely.

As is now the rule at this most pleasant and cordial of dinners there were no speeches. Surgeon-General Hay gave the toast of "The King" in a sentence, and introduced in another sentence as the guest of the evening Sir O'Moore Creagh, the new Commander-in-Chief in India. Sir O'Moore Creagh's remarks were brief as well as felicitous, and the company then resolved itself into an informal and delightful meeting of old friends. Mr. P. J. Freyer (Colonel, I.M.S., retired) earns the thanks of the service for the excellent way in which the annual dinner is organised by him.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia was held on Wednesday, June 16th, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The following list of lecturers was announced:—Dr. Joseph Shaw Bolton, Goulstonian lecturer; Professor W. Osler, Lumleian lecturer; Professor Sir T. Clifford Allbutt, Fitz-Patrick lecturer; Dr. F. W. Mott, Oliver-Sharpey lecturer; Dr. Wm. Bulloch, Horace Dobell lecturer; Dr. Frederick W. Andrewes, Croonian lecturer (vice Dr. A. Gamgee, deceased); and Dr. Henry Head, Croonian lecturer for 1911.

The REGISTRAR (Dr. E. LIVEING) thanked the President, Sir W. S. Church, and the Senior Censor (Dr. Norman Moore) for the kind way in which they had spoken and the proposals they had made at the last Comitia, and he also thanked the Fellows for the manner in which they had received those proposals.

The College seal was affixed to an address to the University of Cambridge on the Darwin Centenary.

The following communications were received: 1. From the Secretary of the Royal College of Surgeons of England, dated June 11th. 2. From the Rev. J. G. Geare of Farnham Rectory, Bishop's Stortford, asking leave to have a photograph of the portrait of Dr. Richard Hale (1670–1728) in possession of the College. Permission was granted.

Sir W. S. Church was appointed a representative of the College on the Court of Governors of the new University of Bristol.

A report was received from the representative of the College on the General Medical Council on the proceedings of the Council at its May session.

The PRESIDENT then dissolved the Comitia.

PRIZE-GIVING DAY AT HOSPITAL MEDICAL SCHOOLS.—Medals and prizes won during the past year will be distributed to the students of Guy's Hospital by His Grace the Duke of Devonshire at a garden party on Thursday, July 8th, at 3.15 P.M. At St. Thomas's Hospital the prizes will be distributed to the students by the Right Hon Alfred Lyttelton, K.C., M.P., in the Governors' Hall, on Friday, June 25th. At the London (Royal Free Hospital) School of Medicine for Women Lady Northcote will present the prizes and certificates to students for 1908-09 on Friday, July 2nd, at 4 P.M. Mrs. Garrett Anderson, M.D., will take the chair. At King's College the prizes and certificates will be distributed on June 30th by Dr. H. A. Miers, F.R.S., Principal of the University of London.

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 18th, 1831.

DAILY DISCHARGE OF OIL FROM THE BOWELS, AND SUGAR FROM THE URINARY PASSAGES.

There is likewise an extraordinary case in Jacob's Ward—a case I have never seen above once or twice before, and never to such an extent; it is the case of a man discharging oil from the intestines. He is labouring under diabetes also—discharging, therefore, sugar from his urethra, while, from his rectum, he pours forth oil. The case must be very interesting to chemists, on account of such a double manufacture going on; and some of our most eminent chemists—four indeed of as good chemists as are in this country, have had specimens of the oil, and they find it to be genuine oil. After a motion it flows from him liquid, and then concretes on the fæces on cooling. Of course you have all seen it swimming in the liquid contents of the vessel, of the colour of unblanched bees-wax.

A case of this kind is mentioned by Mr. Howslip, and, he says, the lady took a pint of oil, and so made no more oil. Though this looked like casting out devils by Beelzebub, yet, as I did not know what to do, I seized the fact, and gave this man six ounces of olive oil to drink; he took two ounces of it, and was sick; he took the remainder afterwards, and it staid down. He has certainly produced very little oil since. Whether that is the consequence of the oil he took or not, I do not know. He has phthisis, too, and he is thus producing a third preternatural fluid pus. Of course he must die; he has been inhaling chlorine with great advantage. It has been gradually diminishing his expectoration. He is sinking under his combined diseases, but he has now hardly any sufferings—none but his cough. I may mention that he at first began by inhaling iodine, but coughed so severely on taking the most minute quantity, even a drop, that I was obliged to give it up. The chlorine he bears well; the amount of many drops, and is greatly relieved by it.[1]

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8972 births and 3962 deaths were registered during the week ending June 12th. The annual rate of mortality in these towns, which had been equal to 14·7, 13·9, and 12·3 per 1000 in the three preceding weeks, increased again slightly to 12·6 in the week under notice. During the first ten weeks of the current quarter the death-rate in these towns averaged 14·6 per 1000; the rate in London during the same period did not exceed 14·1. The lowest recorded annual death-rates in these towns last week were 3·2 in King's Norton, 6·1 in Hastings, 6·4 in Tottenham, and 6·5 in Hornsey; the rates in the other towns ranged upwards, however, to 20·7 in Oldham, 21·1 in Stockport, 23·1 in Warrington, and 23·6 in St. Helens. In London the recorded death-rate last week did not exceed 12·2 per 1000. The 3962 deaths from all causes in the 76 towns last week showed an increase of but 68 upon the exceptionally low number in the previous week, and included 391 which were referred to the principal epidemic diseases, against 414 and 360 in the two preceding weeks; of these 391 deaths, 185 resulted from measles, 56 from diarrhœa, 55 from whooping-cough, 42 from scarlet fever, 40 from diphtheria, and 13 from "fever" (principally enteric), but not one from small-pox. The 391 deaths from these epidemic diseases last week were equal to an annual rate of 1·2 per 1000, against 1·3 and 1·1 in the two preceding weeks. No death from any of these epidemic diseases was registered last week in Brighton, Southampton, Preston, York, or in eight other smaller towns; the annual death-rates therefrom ranged upwards, however, to 4·0 in Wolverhampton, 4·5 in Salford, 4·6 in Norwich, and 5·2 in West Bromwich. The fatal cases of measles in the 76 towns, which had been 178 and 140 in the two preceding weeks, rose to 185 last week, a higher number than in any week since the early part of May; the fatal cases of this disease caused annual death-rates last week ranging upwards to 3·0 in Salford, 3·7 in West Bromwich, 4·0 in Wolverhampton, and 4·2 in Norwich. The 56 deaths attributed to diarrhœa corresponded with the number in the previous week, and were proportionally most numerous in Hanley and Rhondda. The 55 deaths from whooping-cough showed a further considerable decline from the numbers in recent weeks; the highest recorded death-rate from this disease last week was 1·5 in Middlesbrough. The 42 fatal cases of scarlet fever were within three of those returned in the previous week, and included 12 in London and its suburban districts, three in Liverpool, eight in Manchester and Salford, and two in Oldham. Of the 40 deaths from diphtheria, showing a slight increase upon the numbers in the two previous weeks, nine occurred in London and its suburban districts, four in Birmingham and its suburbs, seven in Manchester and Salford, and two both in Bradford and in Merthyr Tydfil. The deaths referred to "fever," which had been 20, 16, and 11 in the three preceding weeks, were 13 last week. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2254 and 2223 at the end of the two preceding weeks, had increased to 2263 on Saturday last; 395 new cases of this disease were admitted to these hospitals during last week, against 348, 335, and 273 in the three preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 225 and 172 in the two previous weeks, further declined last week to 152 and were 15 below the corrected average number in the corresponding week of the five years 1904–08. The deaths in London referred directly to influenza were 13, showing an increase of three upon the number in the previous week. The causes of 25, or 0·6 per cent., of the deaths registered last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. The causes of all the deaths registered during the week were again duly certified in London, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, Leicester, Salford, Hull, and in 52 other smaller towns; the 25 uncertified causes of death included five in Liverpool, five in Birmingham, and two each in St. Helens, Coventry, and Willesden.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 957 births and 518 deaths were registered in the week ending June 12th. The annual rate of mortality in these towns, which had been equal to 17·5, 16·7, and 16·3 per 1000 in the three preceding weeks, further declined to 14·5 in the week under notice. During the first ten weeks of the current quarter the death-rate in these Scotch towns averaged 16·7 per 1000, while in the 76 large English towns the mean death-rate during the same period did not exceed 14·6. The death-rates last week in these Scotch towns ranged from 11·6 and 12·3 in Leith and Greenock to 15·9 in Glasgow, and 19·9 in Paisley. The 518 deaths from all causes in the eight towns showed a further decline of 64 from the numbers returned in recent weeks, and included 55 which were referred to the principal epidemic diseases, against 76, 68, and 59 in the three preceding weeks. These 55 deaths were equal to an annual rate of 1·5 per 1000, against 2·1, 1·9, and 1·7 in the three previous weeks; the mean death-rate last week from these principal epidemic diseases in the 76 large English towns did not exceed 1·2 per 1000. Of the 55 deaths from these epidemic diseases last week in the Scotch towns, 22 resulted from whooping-cough, 15 from diarrhœa, five from "fever," five from scarlet fever, five from diphtheria, and three from measles, but not one from small-pox. The fatal cases of whooping-cough in the eight towns, which had been 40 and 25 in the two preceding weeks, further declined to 22 last week, of which 13 occurred in Glasgow and eight in Edinburgh. The 15 deaths attributed to diarrhœa corresponded with the number in the previous week, and included five both in Glasgow and in Aberdeen, and four in Dundee. The five deaths referred to "fever" also corresponded with the number in the previous week, and were all recorded in Glasgow; three were certified as enteric and two as cer[illegible] the five fatal cases of scarlet [illegible]: while of the five deaths from [illegible] of two from the number in the previous week, two were returned in Glasgow and two in Leith. The three deaths from measles all occurred in Paisley. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 109, 94, and 93 in the three preceding weeks, further declined to 80 last week, but exceeded by 29 the number in the corresponding week of last year. Of the deaths in the eight towns, 21 resulted from violence, including 13 in Glasgow and four in Edinburgh. The causes of 12, or 2·3 per cent., of the deaths in the eight towns last week were unspecified or uncertified; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·6 per cent.

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[1] Excerpt from Clinical Lecture delivered by Dr. Elliotson at St. Thomas's Hospital on March 31st, 1831.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 22·3, 21·7, and 18·2 [illegible] weeks, rose again to 18·7 in [illegible] During the first ten weeks of [illegible] rate in the city averaged 21·8 per 1000, whereas the mean rate during the same period did not exceed 14·1 in London and 16·3 in Edinburgh. The 143 deaths of Dublin residents from all causes during last week showed an increase of four upon the number in the previous week, and included nine which were referred to the principal epidemic diseases, against 13 and 11 in the two preceding weeks. These nine deaths were equal to an annual rate of 1·2 per 1000, the death-rate from these epidemic diseases in the same week being 1·3 in London and 1·2 in Edinburgh. Of the nine deaths from these epidemic diseases in Dublin last week, four resulted from whooping-cough, two from "fever," and one each from measles, scarlet fever, and diarrhœa, but not one either from diphtheria or small-pox. The fatal cases of whooping-cough corresponded with the number in the previous week. The 143 deaths included 23 of infants under one year of age and 39 of persons aged upwards of 60 years; the deaths of infants showed an increase upon the low number in the previous week. Three inquest cases and two deaths from violence were registered last week, and 65, or 45·5 per cent., of the deaths occurred in public institutions. The causes of four, or 2·8 per cent., of the 143 deaths registered in Dublin last week were not certified either by a registered medical practitioner or by a coroner; all the causes of the 1135 deaths registered in London last week were duly certified, whereas in Edinburgh the proportion of uncertified causes of death was equal to 3·5 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff-Surgeons: T. H. Vickers to the *Victory*; R. Hughes to the *Cressy*; F. F. Lobb to the *Antrim*; J. E. H. Phillips to the *Sappho*; R. F. Clark to the *Sirius*; E. Arkwright to the *Natal*; R. S. Bernard to the *Edgar*; and M. O. Langford to the *Hawke*. Surgeons: G. S. Davidge to the *Diamond*, additional, for the *Tyne*; E. L. Atkinson to the *Achilles*, on completing; and M. W. Haydon to the *Cormorant*, additional, for Ascension Hospital.

INDIAN MEDICAL SERVICE.

The Ki[illegible]wing promotions among officers c[illegible]vice:—To be Colonel: Lieutena[illegible] Steel Lyons (dated Jan. 13th, 1909). Majors to [illegible] March 30th, 1909): Fairlie [illegible] Steel Anderson, John Telfe[illegible] Percival Ricketts, Charles Ma[illegible] Arthur Gervase Hendley, Georg[illegible] Tilson Hudson.

His Majesty has also approved of the retirement of the [illegible] Damodar Purshotam [illegible]: Major Charles Henry [illegible]

TERRITORIAL FORCE.

Royal Army Medical Corps.

1st London (City of London) General Hospital: To be Captains, whose services will be available on mobilisation: Frederick William Andrewes (dated May 25th, 1909). Walter Langdon Brown (dated May 25th, 1909).

2nd London Sanitary Company: John Muir to be Lieutenant (dated May 5th, 1909).

For attachment to Units other than Medical Units.—Lieutenant John Paton to be Captain (dated Feb. 16th, 1909). The promotion to a Majority of Captain Edmond U. F. MacW. Bourke bears date Sept. 28th, 1908. Captain Frank Grégoire Proudfoot, from the 3rd Southern General Hospital, to be Captain (dated May 1st, 1909). David Gerald Kennard to be Lieutenant (dated May 17th, 1909).

VOLUNTEERS.

Royal Garrison Artillery:—5th Lancashire: Surgeon-Captain Thomas W. Butcher resigns his commission (dated March 31st, 1908).

QUEEN ALEXANDRA ROYAL MILITARY HOSPITAL.

It is officially announced that the King will be present at the opening service of the new chapel of the Queen Alexandra Royal Military Hospital, Millbank, on Thursday, June 24th.

Correspondence.

"Audi alteram partem."

THE CAUSATIVE FACTOR OF BERI-BERI.

To the Editor of THE LANCET.

SIR,—I have read with great interest your report of the meeting of the Society of Tropical Medicine and Hygiene (May 21st), and as I gather from it that there is still a marked prejudice against Dr. W. L. Braddon's theory as to the causation of beri-beri, I should like to put on record two concrete examples of outbreaks of the disease, which I think go far to prove his case.

The first is the history of an epidemic of *true* beri-beri occurring on a cable-repairing steamer belonging to the Eastern Telegraph Company, and stationed in the Red Sea, and I think it is an important point that no case of the disease had occurred on this particular ship for at least three years previously. On May 24th, 1907, a crew of 50 Lascar [illegible] cooks are excluded because [illegible]

At the end of July the last bag of this particular rice was expended, and as the ship was now working on her station in the Red Sea a supply of Rangoon "uncured" rice was picked up at Aden and replenished later at Suez. This rice began to be consumed during the last week in July and was the staple article of diet until [illegible] outbreak of beri-beri occu[illegible] by the ship's surgeon, but [illegible] of the Indian Medical Service stationed at Aden, where a number of the men were landed in hospital. Altogether there were 20 well-marked cases, of whom three died, and as the others were probably infected, the whole crew were shipped backed to Bombay and a fresh one sent to take its place.

About this time I came across Dr. Braddon's book, and being much impressed by it I considered that this epidemic was a vindication of his theory. The men had been perfectly healthy whilst Indian rice was consumed and the outbreak did not commence till Rangoon rice had been in use for three months, which I gather is the usual period. Here [illegible] effect had seemed [illegible] hesitation in advisi[illegible] stop the supply of [illegible] stitute the "cured" variety as a permanent institution. This advice was acted upon at once, and I can now place it on record that with the same class of crew, living under exactly the same conditions, not one single case has occurred since.

The other concrete example, to which I would like to draw attention, deals with the history of two epidemics of beri-beri occurring amongst the Chinese coolies employed in erecting buildings on a small island in the Cocos-Keeling group for the Eastern Extension Telegraph Company. The first outbreak was in 1902, when I myself was in medical charge. It was very virulent and in spite of all precautions as to sanitation, treatment, moving the site of the coolie lines on two occasions, &c., 48 cases occurred amongst 60 men, and of these 17 died. At that time many conflicting opinions as to the cause of beri-beri were held by the medical authorities in the Straits Settlements, and those whose opinion seemed to carry the greatest weight did not believe in the rice theory. I therefore discounted it, but was able to come to no conclusion that satisfied me. I thought that an early case had been overlooked when the men were inspected in Singapore and that the others had become infected from this, but in view of recent research and with the dates and history of the epidemic before me I am firmly of the opinion that it was due to the consumption of "uncured" rice. Against my idea of an infection was the fact that no single case occurred amongst the cooks and house servants, and as these had less rice and a more generally generous diet, it is really a distinct point in favour of Dr. Braddon's theory.

Following this epidemic the work was rapidly finished by a large new gang and no more was heard of beri-beri on the island till March, 1908, when the same conditions as before were repeated. New buildings were required and a gang of 68 Chinese coolies left Singapore on Jan. 2nd, taking with them the usual Chinese food-supplies, of which the staple was "uncured" rice. The medical man in charge was Mr. A. H. Macdonald, whose work, during a very trying time, was most excellent and from whom we received long and careful reports. The epidemic began with a case on Feb. 18th followed by another on the 29th. Then six cases developed between March 6th and 30th, and during April it became a scourge, no less than 34 further cases being added. On May 1st three more developed, and of this total of 45, 12 died on the island and three others whilst on their way back to Singapore. The whole of the remaining men were taken away from the island on May 2nd and were replaced immediately by a new gang of 29 which arrived on April 28th and whose number was further increased to 45 on July 2nd. This new gang were housed in new huts and all possible precautions taken, but the only real difference in their work, environment, and diet was that the rice-supply, on my strong recommendation, was changed from the "uncured" to the "cured" variety.

The result is both interesting and instructive. Writing under date June 29th, 1908, Mr. Macdonald says: "The new gang has been, and still is, in excellent health, not one having been absent from work a single day through illness," and again, under date Sept. 25th, 1908, he states, "The Chinese workmen have had no sickness amongst them beyond minor surgical troubles." Discussing the probable cause of this immunity from beri-beri, he states that he considers *the strongest factor* is the substitution of "cured" for "uncured" rice, and with this I fully agree. The greater number of this gang of workmen left the island on Oct. 1st, not a single case of beri-beri having occurred amongst them, and I attribute this solely to the fact that a general order has been in force since April, 1908, that no "uncured" rice is to be supplied to the native servants of the company (Chinese or Malay) working on this island.

Reviewing the history of these three epidemics, it seems to me that Dr. Braddon's work marks a great epoch in the study of a disease, the ravages of which must be seen to be believed, and if these details will induce others to put his theories into practice I feel sure they will be gratified with the results.—I am, Sir, yours faithfully,

C. W. CURTIS, M.R.C.S. Eng., &c., D.P.H.,
Principal Medical Officer, Eastern and Associated Telegraph Companies.
Electra House, E.C., June 12th, 1909.

COLOUR VISION IN THE MERCANTILE MARINE.

To the Editor of THE LANCET.

SIR,—The long time it takes to awaken certain official bodies out of the lethargy into which their official position lulls them is notorious, but it is surely time that the Board of Trade undertook to revise the methods they use for the examination of candidates to whom they grant certificates of proficiency in colour vision when these men have thousands of pounds worth of property and hundreds of lives dependent upon their correct appreciation of coloured lights which are constantly appearing during the night at sea, and who likewise have to read signals made with coloured flags during the daytime. The methods still in vogue are "Gilbertian" to a degree and would scarcely be credited by a stranger unacquainted with certain official methods. This state of affairs was prominently brought forward only a few weeks ago.

It appears that a Mr. —— obtained his certificate as second mate 18 months ago, when he was examined for colour vision by a certain captain in the Mercantile Marine appointed by the Board of Trade for this obviously medical duty, and he was duly passed. After serving for another period at sea he presented himself for examination as "mate," when the same examiner tested his sight and rejected him on account of defective colour vision. Not content with this, the candidate applied for a "special examination," in consequence of which the Board referred him to their special examiners, who consisted of another ship's captain assisted by an assistant professor of physics at the Royal College of Science. These examiners, who, of course, had no knowledge of ophthalmology or physiology, confirmed the previous decision and rejected him. He next on his own initiative applied privately to an ophthalmic surgeon, who found his colour vision so good that it in no way impaired his efficiency as an officer at sea. This, of course, was distinctly awkward for the Board of Trade, who had somehow to get over the difficulty, so in their wisdom they appointed a special tribunal to decide between the doctor and the lay examiners. One would have expected that this tribunal would have been composed of specialists in eyesight, or at any rate of people who knew something of the subject in order to weigh the conflicting evidence. Although such a course would be natural, yet it is not the way of the Board of Trade, who have ideas of their own on such matters, so they appointed the president of the local Marine Board, a stipendiary magistrate, a Member of Parliament, and one or two ship's captains.

Considering that not a single member of this committee had any more knowledge of physiology and sight-testing than had the original examiners, it is obvious that any opinion they might express as to who was right and who was wrong would not be worth the paper on which it was recorded, and an equally satisfactory result would have been arrived at by the simple expedient of tossing a coin and seeing whether it came down heads or tails. Still one must give credit where it is due, and this tribunal not unnaturally came to the conclusion that the doctor was more likely to be right on a medical point than superannuated captains, and so they decided that the candidate had good colour vision, and that his certificate should be granted. Would anyone believe that in the present day such a farce would be gravely carried through by a responsible Government department, and yet this is absolutely what happened about four weeks ago.

In this letter it would be impossible to go into the details of this ridiculous affair, but suffice to say that the important lantern test was used by no one. Holmgren's wools were, of course, used, and everyone knows how utterly impossible it is to detect all cases of colour-blindness with them. Brilliant spectral lights were employed for an abnormal length of time, and this no doubt produced fatigue, and after-images which would render anyone incapable of correctly naming the colours seen, and as these are pure colours and not impure ones (as is always the case with signal lanterns) so we find those with defective colour sense far more confused by the impure colours than by the pure ones, and thus it is that an examination with spectral lights is by no means a good test to rely on in a routine examination. Colour fatigue is far more readily produced in those whose colour vision is below the normal, but there are scores of people who although not possessing the most highly developed colour sense yet would never mistake a colour used in a signal lantern, and it would be as unfair to reject these as it would be to call a person deaf whose ear was incapable of distinguishing quarter tones in music.

These unhappy candidates are at the present time at the mercy of a board who seem incapable of grasping the fact that an examiner should have some knowledge of the subject on which he is asked to adjudicate. Surely there are plenty of ophthalmologists in the land, and if there are, why cannot some of them be appointed to examine eyesight? We shall next hear of mining engineers examining candidates in navigation, or sanitary inspectors granting certificates for proficiency in marine engineering. The way in which this particular candidate was tested clearly shows that they were attempting to use some of the methods so long advocated by Dr. Edridge-Green, but that having no knowledge of the subject they utterly failed to grasp his points, and thus we find a man who, but for his perseverance, would have had his livelihood taken away from him, just because of some antiquated regulations to which the Board of Trade still adhere. It is to be hoped that before long this crying injustice both to the candidates and to the general public will be swept away, and that common sense will at last prevail. It is surely no great thing to ask that the Board of Trade shall appoint as their examiners men who know something about their subject.

I am, Sir, yours faithfully,

Harley-street, W., June 7th, 1909. C. DEVEREUX MARSHALL.

A CASE OF SEVERE VERTIGO AND TINNITUS; DESTRUCTION OF THE LABYRINTH; CURE.

To the Editor of THE LANCET.

SIR,—Under the above heading I published in THE LANCET of Sept. 19th, 1908, p. 871, a case which that title sufficiently describes. As a year has now elapsed since the operation, it may be of interest to your readers to know the further history of the case. I wish also to correct a slight error in the early history of the patient. It is stated in the account given that he had been "free from discharge for over 18 years"; as a matter of fact, the discharge occurred in infancy and ceased before the age of eight years, the patient being 48 years and 6 months old at the time of the operation.

I last saw the patient on May 28th of this year—the first anniversary of his operation. The wound cavity in the left temporal bone was soundly healed and completely epithelialised, the scar of the incision being scarcely visible. The hearing was *nil*. The patient expressed himself as feeling "better than he had been for years." He has had no tinnitus and no vertigo whatever since his operation, and is able to carry out his duties as a country clergyman without the least trouble; he is, of course, greatly helped by his proficiency in lip-reading. The condition of his vestibular apparatus was investigated for me very kindly by Dr. Dan McKenzie, the result of his examination being as follows: "Slight nystagmus both, slightly more marked left. Caloric cold, L., spontaneous nystagmus unchanged in 120 secs. No vertigo. Caloric cold, R., (?) increase of spontaneous nystagmus in 90 secs. No vertigo."

Nine days before his operation the hearing in the right ear was: voice, whisper, acoumeter, Galton whistle, bone conduction (to C128), *nil*. By air conduction he showed perception for C^2, C^3, and C^4. He perceived the continuous tone series a^2 to a^3, but missed C_4 sharp. After the operation, the hearing in the right ear improved very slightly, being on June 29th, 1908: voice 3 inches; Galton whistle, 11048·30 D.V.; bone conduction (C123), 0. By air he showed: 1064 perception (?), C perception, C^1–27″, C^2–38″, C^4–19″, C^4–35″, but this increase is now slightly diminished.

I am, Sir, yours faithfully,

MACLEOD YEARSLEY, F.R.C.S. Eng.

Harley-street, W., June 15th, 1909.

THE NEW IRISH UNIVERSITIES.

To the Editor of THE LANCET.

SIR,—In a fortnight the statutes of the new Irish Universities will have passed into law, so that any modifications must be made by Parliament at once. Convocation of the Royal University—largely composed of medical men—has not been consulted about these statutes, and therefore they need amendment. The Convocation recommended the establishment of a degree of B Sc. in Public Health. This has been done in Dublin but not in Belfast, but instead of being open to graduates of all universities on the Medical Register is confined, apparently, to those who have taken the M B in the University at Dublin. It is also complained that an effort is being made to shear Convocation of any real strength by confining the power to call meetings of it to the Chancellor or Senate in Dublin, whilst in Belfast a number of members can call a meeting of Convocation. Power to elect a clerk of Convocation has hitherto lain with that body. Now it is transferred to the Senate.

Hitherto Convocation of the Royal University elected a certain proportion—usually of medical men—to the Senate. This power is now taken from them for five years. There is also a strong objection to persons who have been nominated members of the Senate of the new universities being elected to paid professorships or other posts of emolument. If such are elected they should resign from the Senate forthwith. The institution of a degree of D.Sc. in veterinary medicine is desirable; there is a strong Veterinary College in Dublin, but no provision for the study of diseases transmissible from animals to men. Such post-graduate study would be the result of the possibility of obtaining a higher qualification for a veterinary surgeon. In like manner a much-needed stimulus to the study of pharmacology would result from the granting of a B.Sc. degree in pharmacology for registered pharmacists. I am, Sir, yours faithfully,

J. C. McWALTER, M.A. R U.I,
M.D. Brux., F.F.P.S. Glasg.

Dublin, June 13th, 1909.

PS.—Unless power is given to the statutes to confer these new degrees Convocation will be unable to do so afterwards.

CEREBRAL HÆMORRHAGE AND HYPERPYREXIA.

To the Editor of THE LANCET.

SIR,—In THE LANCET of June 12th, p. 1716, you published a letter from Dr. Morgan Richards relating to a case of cerebral hæmorrhage followed by hyperpyrexia and death, which occurred on board the Pacific Company's R.M.S. *Oropesa*. By a strange coincidence I had a similar experience, curiously enough on the same boat and in practically the same part of the Atlantic. A passenger, aged 35 years, who previously to his death looked to all intents and purposes a healthy man, was one morning "seized with a fit" when about three days' journey from St. Vincent. The heat had been very trying and when I saw him he was in the usual condition seen in cerebral hæmorrhage, cyanosis, stertor, coma, &c. When examining him I was struck with the extraordinary heat given out by the body, and on taking the temperature in the axilla I found it 110° F.; in fact, the mercury had gone right up to the end of the thermometer. On procuring another instrument graduated to 115° I found the temperature in the axilla was 111° and in the rectum 111·5°. The patient died four hours after the seizure. Hyperpyrexia before death is quite a common accompaniment of cases of cerebral hæmorrhages and in injuries to the head, and in reply to your correspondent, Mr. V. P. Norman, this phenomenon seems to me to be a clinical fact quite often recorded. I am, Sir, yours faithfully,

B. H. PALMER, M.B., B.C. Cantab.

Victoria Hospital, Folkestone, June 14th, 1909.

BLOOD EXAMINATION IN SUSPECTED APPENDICITIS.

To the Editor of THE LANCET.

SIR,—In the interesting case of appendicitis reported by Dr. J. S. Boden and Mr E. M. Corner in THE LANCET of June 12th, p. 1682, it seems to me that had a blood count been made on the same day (Jan. 28th) as the blood specimen showed a negative typhoid reaction a diagnosis of suppuration could have been made. On the 26th the blood count would probably have indicated the presence of pus, and I am inclined to think that a leucocytosis would have been found on the 23rd or possibly even on the 22nd. It is evident that very little would have turned the balance in favour of early operation, and an increased white cell count, so rarely found in typhoid fever, would have been sufficient. One has not to wait for a large abscess before getting the blood change—a single drop of pus is sufficient, as was found in a case I operated on lately where the white cells numbered 35,000 per cubic millimetre and where the ovaries and tubes were much swollen and adherent, and a single drop of pus was found in the appendix. Sufficient attention has not been drawn to the necessity for counting the blood cells in all cases where suppuration is a possibility.

I am, Sir, yours faithfully,
June 14th, 1909. SKENE KEITH.

LENHARTZ'S TREATMENT OF GASTRIC ULCER.

To the Editor of THE LANCET.

SIR,—In the account given by Professor Lenhartz of his treatment of gastric ulcer in your report of the German Congress of Internal Medicine in THE LANCET of June 12th, p. 1716, he says that 40, and subsequently 50, grammes of raw meat are given per day. A little later he says that the patient is not discharged from hospital until no blood has been present in the fæces for several weeks. It is important and would be interesting to know what diet Professor Lenhartz keeps his patient on for the few days previous to the examination of the fæces, and how often this is done.

I am, Sir, yours faithfully,
College Gardens, Belfast, June 14th, 1909. W. CALWELL.

⁂ Our correspondent will find the treatment of Professor Lenhartz set out at length with a diet table in an article by Dr. J. Victor Haberman which was published in THE LANCET of July 7th, 1906, p. 25. But the examination of the fæces is not mentioned.—ED. L.

THE SEMON TESTIMONIAL.

To the Editor of THE LANCET.

SIR,—Sir Felix Semon, physician-extraordinary to the King, is retiring from practice, and the occasion will be marked by a complimentary banquet to be given him by his professional and other friends on Friday, July 2nd, at the Whitehall Rooms, Hotel Métropole. The organisers of the banquet are anxious to found a lectureship or scholarship in his name to be a record of his scientific work as one of the founders of the British School of Laryngology. Mr. Henry T. Butlin will preside at the dinner, and all communications with regard to the Testimonial Fund or application for seats at the banquet should be addressed to one of us, the honorary secretaries.

We are, Sir, yours faithfully,
ALFRED MOND, M.P.,
35, Lowndes-square, S.W.;
P. WATSON WILLIAMS, M.D. Lond.,
4, Clifton-park, Bristol;
H. J. DAVIS,
8, Portman-street, London, W.

THE GERMAN CONGRESS OF INTERNAL MEDICINE.

(FROM OUR BERLIN CORRESPONDENT.)

(*Concluded from p. 1718.*)

The Treatment of Chronic Bronchitis and Bronchial Asthma by X Rays.

Dr. SCHILLING (Nuremberg) reported that he had obtained excellent results by the use of x rays in chronic bronchitis and bronchial asthma. The discharge became less abundant and the asthmatic trouble became better or even disappeared. In some instances the asthmatic attacks were definitely stopped by a single application of the rays. The results were especially striking in children. In 70 per cent. of the cases complete recovery, or at least great improvement, took place. The improvement continued in a great number of cases for months and even for years.

Neurasthenia after Lead-poisoning.

Dr. OTTO NAEGELI-NAEF (Zürich) reported an epidemic manifestation of neurasthenia in workmen suffering from lead-poisoning. The objective symptoms of poisoning were very slight, but characteristic symptoms of neurasthenia were present, having the appearance of a traumatic neurosis.

Researches on Metabolism in Febrile Diseases and Convalescence.

Dr. ROLLY (Leipsic), after alluding to some observations formerly made by him on metabolism in patients suffering from enteric fever, reported a new series of researches in infectious diseases carried out in conjunction with Dr. Meltzer. The cases included 7 of septicæmia, 4 of angina, 1 of catarrhal pneumonia, 1 of rheumatic arthritis, 1 of erysipelas, and 2 of tuberculosis. The results were very like those obtained in enteric fever, in the feverish stage as well as in convalescence. He further found in two patients suffering from anæmia and gastric ulcer and in a patient suffering from pernicious anæmia that in these cases a chemical substance containing much oxygen was retained in the organism. He concluded that in morbid conditions leading to inanition, whatever the cause might be, the albumin of the body was oxidised in an abnormal way, so that the nitrogenous part was at once consumed, whilst the component consisting partly of carbon was retained in the body for a long time. This carbon-containing compound was eliminated through the lungs during convalescence whilst the nitrogen was again assimilated.

The Metabolism of the Inorganic Constituents of the Tissues in Relation to Pathology.

Professor MAGNUS-LEVY (Berlin) said that the theory o ionisation made it possible to understand how substances of inorganic origin might enter into chemical combination with organic compounds. This process, in which inorganic substances acquired properties not possessed by them when in the free state, was, in fact, rather frequent. The mineral substances which were necessary for the organism were contained in the food, and when they were not already in a state of organic combination the body was able to convert them into organic compounds. A classic example was the inorganic iron which entered into the composition of hæmoglobin. According to the opinion of Professor Bunge the administration of iron was useless for the formation of hæmoglobin, but clinical experience has, nevertheless, shown that this opinion was erroneous, and by experiments in animals it had been proved that ferrates, and even metallic iron, in a state of fine division, were assimilated by the organism. With respect to calcium the speaker pointed out that the rachitis of children was not exclusively caused by a deficiency of calcium salts in the food; it had been shown by experiments on young animals that the administration of food containing no calcium salts produced a morbid condition clinically similar to rachitis, but that the microscope revealed the existence of histological differences. The deficiency of lime in the food might, however, produce a liability to rachitis. In chronic exhausting diseases such as leukæmia and diabetes there was weakness of the bones together with an abundant excretion of phosphates. Professor Magnus-Levy made only a short allusion to compounds containing iodine because that question had been discussed in this Congress two years ago, and he then took up the subject of chloride of sodium. He said that a daily quantity varying from 15 to 20 grammes of this substance was harmless for healthy persons because it was discharged by the urine within 24 hours, but when the kidneys were in a morbid condition they were unable to eliminate that amount and a retention of salt consequently occurred. This retention was frequently the cause of œdema. A reference was made to Professor Widal's observation that the œdema from which a patient was suffering disappeared as soon as no chloride of sodium was given with the food, but re-appeared on the administration of ten grammes of the salt. A strict milk diet was not advantageous in these conditions, because three litres of milk contained five grammes of common salt, but a mixed food, consisting of bread, potatoes, rice, butter, and some meat, contained only from one to two grammes of salt, provided that no salt was added in cooking the food. Under the *régime achloruré* of Professor Widal excellent results had been obtained in cases of Bright's disease attended with œdema. The retention of phosphates did not produce œdema. Œdema in diseases of the heart and liver depended on other causes and were therefore not so decidedly influenced by the food, but nevertheless some good results were obtained by similar treatment. Retention of chloride of sodium occurred in arterio-sclerosis, gout, emphysema, and in all acute infectious diseases; a reduction of the amount of common salt in the food might therefore be useful in these conditions. In the treatment of epilepsy, if food containing little chloride of sodium was given, this had the effect that an alkaline bromide administered therapeutically was retained in the system, so that its specific action on the disease was of longer duration. In infants morbid conditions were frequently produced by a too liberal use of common salt.

Therapeutic "Dechloruration."

Professor WIDAL (Paris) gave an historical review of the observers who have contributed to the modern theory of the action of chloride of sodium in Bright's disease. He said that some authorities had held the opinion that this was not the only substance which was of importance for the development of œdema. Professor Widal, however, together with Dr. Faval, maintained that chloride of sodium alone was the cause of this symptom; they succeeded in producing œdema in Bright's disease by administering a certain quantity of salt in the food. He further stated that milk was too rich in salt for such patients, and that a mixed diet as above mentioned by Professor Magnus-Levy in his address contained a smaller proportion of salt and was therefore more suitable. Œdema occurred in two stages, first in the form of deep infiltration, which was not visible, and, secondly, as visible œdema of the skin and subcutaneous tissue. Deep infiltration could only be ascertained by regularly weighing the patient. The method of dechloruration devised by Professor Widal had two objects—namely: (1) to remove the salt contained in the organism and so to combat the œdema; and (2) to ascertain the amount of salt which could be discharged by the diseased kidney. It must be remembered that the permeability of the kidneys for salt was different in different individuals and in different stages of the disease. By observing the patient's weight and the relative quantities of salt ingested and excreted it was possible to ascertain the amount which was suitable for the organism. In certain patients dietetic treatment alone had not the desired effect and diuretic medicines must be administered. When the œdema had disappeared, [illegible] of the patient had been constant for several [illegible] reased. [illegible] others the method was no longer suitable after a certain time. The [illegible] forms of Bright's disease—one [illegible] the other with retention of [illegible] was retained in the blood, whilst the chloride of sodium made its way from the blood into the tissues of the body. Therefore the retention of salt often leads to hydropic uræmia, the retention of urea to dry uræmia. In patients suffering from retention of salt the urea might be present within the blood only in a minimal quantity of 0·2–0·5 gramme for every litre, but when the blood contained up to 4 grammes of urea a retention of urea was present. Certain patients with vomiting and symptoms of apparent eclampsia and œdema might improve very soon, whilst others showing only a slight sleepiness or anorexia might suddenly fall into deep coma. In these cases the prognosis might be ascertained by the quantitative estimation of urea; notwithstanding severe symptoms good results were obtained by dechloruration when the quantity of urea was normal, which meant that only a retention of chloride of sodium was present. Patients with Bright's disease, even without insufficiency of the kidney, should take as little salt as possible, because it was impossible to state at what moment an abundant administration of salt might become harmful.

Professor STRAUSS (Berlin) spoke against dechloruration in Bright's disease with a good compensation of the kidneys. In œdema issuing from heart disease only in very severe cases a result may be obtained with dechloruration.

Dr. BICKEL (Berlin) discussed the influence of mineral substances on the glands of the stomach. He said that the same mineral substance might have a different action on the healthy or morbid viscera. Some of them produced an increase of secretion within the stomach, but a decrease in the intestines.

Dr. KLUM (Strasburg) said that the administration of a great quantity of bicarbonate of soda produced œdema by the retention of water, especially in diabetic patients. He mentioned the case of a diabetic man whose weight increased within six days by 9 kilogrammes after an administration of 190 grammes of bicarbonate of soda. Hitherto this compound was used as a diuretic. Probably in diabetes with acidosis the tissues retained the compound because of the deficiency of salt; the same was the case in healthy people when a diet poor in salt was given.

The Relation Between Internal Secretion and Salt Metabolism.

Dr. FALTA (Vienna) said that a relation existed between the thyroid gland, the pancreas, the hypophysis, the chromaffin system and the metabolism of albumin, carbohydrates, and fat. There were two groups of glands: the first, to which the thyroid and the hypophysis belong, acted on the sympathetic nerves, and was therefore termed the sympathetic group; it increased the [illegible] termed autonomic group, had a [illegible] metabolism, especially of albumi[illegible] antagonism between the two groups was obvious also in the metabolism of salts; the sympathetic glands increase, the autonomous decrease it. In animals the removal of these glands produced an enormous increase of the discharge of salts by the kidneys. Eosinophilia and galvanic irritability were also influenced by both groups of glands in an antagonistic sense.

The Action of Intravenous Injections of Hypertonic Salt Solutions.

Dr. VAN DEN VELDEN (Elberfeld) said that injections of a few cubic centimetres of a 5 to 10 per cent. salt solution had a hæmostatic action. He had never seen any ill effect [illegible]ither fever nor albuminuria nor [illegible] increase of leucocytes. The [illegible]ythrocytes was not altered; a slight hyperæmic plethora and a better filling of the vessels were observed.

In the discussion Professor MOHR (Halle) said that he had tried to produce œdema by the administration of water to animals from which salt had been withheld and which had previously been made artificially nephritic. The experiment was successful in four dogs. He concluded that in the treatment of hydropic patients not only the dechloruration but also the quantity of water was of importance. Dechloruration was not harmless, as suggested by Professor Magnus-Levy and Professor Widal. Two dogs suddenly died on a diet [illegible] sense. In infectious diseases Bright's disease might be avoided by administering a diet with little salt. Professor Mohr had prescribed in 12 cases of scarlet fever the usual milk diet, and in another series of 10 cases meat without salt after Widal's theory. The result was that of the first series six cases and of the second series two cases contracted Bright's disease.

Dr. GERHARD (Jena) drew attention to the sudden alterations of the excretion of chloride of sodium occurring in acute Bright's disease; he saw the discharge of salt stop for one to two days whilst the albuminuria and the discharge of casts continued for weeks. When a retention of water happened in diabetic acidosis after the administration of a large dose of chloride of sodium, a characteristic œdema of the face was often present.

Dr. SCHOTT (Nauheim) said that it was important for the therapeutic effect of dechloruration that the patient should make active movements. The state of the patient sometimes underwent remarkable alteration during dechloruration; whilst the diet was quite suitable to them for a certain time, they might suddenly show anorexia, enormous œdema, and syncope, and these undesirable symptoms might even disappear after the administration of a food with an abundant amount of common salt.

Professor MAGNUS-LEVY, answering the above objections, said that an increase of weight was often observed in diabetic patients after the administration of bicarbonate of soda; it [illegible] the normal amount of wate[illegible] The opinion that dechloru[illegible] healthy kidney was not yet [illegible] the sudden death of Professor Mohr's dogs, he pointed out that such deaths of animals frequently occurred in laboratories without an apparent reason. The cases mentioned by Professor Schott were very interesting, but further analysis of these cases was necessary. Dechloruration as a prophylactic against Bright's disease was not quite reliable.

The Use and Interpretation of Electro-cardiograms.

Professor HERING (Prague) said that he had caused in animals by injections of dioxalic acid an "alternating" action of the heart and showe[illegible] curves taken before and after the [illegible]rnating effect; the heart was shown to beat in an inverse sense, the contraction of the ventricles preceding that of the auricles. It was remarkable that the heart of frogs which had only one ventricle showed the same electro-cardiogram as the heart of mammals, including the human species.

Dr. HOFFMANN (Düsseldorf) said that the electro-cardiographic method might give misleading results from a variety of causes, such as displacement of the heart by pleuritic exudations, gastric flatulence, &c. According to his opinion the electro-cardiographic method does not explain the contractions but the irritability of the heart; it cannot be used for clinical purposes without a solid physiological and pathological basis, which hitherto does not yet exist.

Dr. STRUBELL (Dresden) showed a great many electro-cardiograms of healthy individuals, athletes, and aged persons. He said that tremor of the fingers was one of the principal causes of failures of the method. The curve disappears with the deterioration of the cardiac action. With the use of the electrographic method a new era had commenced in the diagnosis of heart diseases, especially of arrhythmia.

THE CLEANSING OF CAIRO.

(FROM OUR SPECIAL SANITARY COMMISSIONER)

(Concluded from p. 1723.)

FILTHY FUEL FOR PUBLIC BATHS.—VAST ACCUMULATIONS OF GARBAGE AND SCAVENGER CATS IN POPULOUS CENTRES.—BUILDING ON DOMESTIC REFUSE.—STREET CLEANING AND UNRULY EUROPEANS.—FLOODS ON FOUL SOIL.—CONCLUSION.

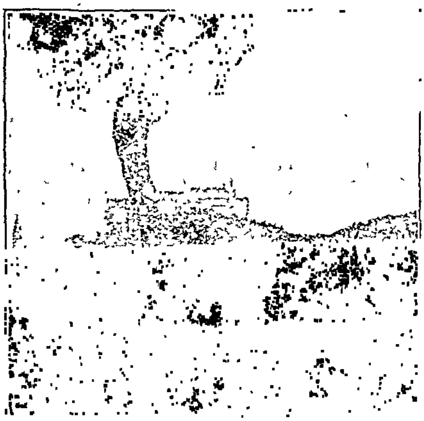
OF the 600 cartloads of rubbish collected in a day, the baths, as already stated, purchase 189 loads. This would be an excellent thing if the rubbish was at once placed in the furnaces that warm the water for the baths and consumed. But under the pretext that if it rained the refuse would not be dry enough to burn the managers of the baths are allowed to store a sufficient supply for at least a fortnight. In reality, they often take in enough to last several months, and such a vast accumulation of very foul refuse creates a great nuisance. It must also be borne in mind that the baths are not in outlying parts but, on the contrary, are distributed all over the city and are more especially to be found in the districts where the population is most dense. My first visit was to the largest and best hammam in Cairo. A narrow street conducted me to the back of the premises and there I had to descend into sombre and sinister regions, stepping on all kinds of indescribable things, slimy and slippery or hard and gritty by turns. And sometimes a twining thing, a piece of wire or the hoop of a broken barrel, would get between my feet or grasp my ankles and threaten to trip me up. We passed by narrow winding passages. There might have been stairs but they could not be seen or felt, for the space between the steps was choked up with the dirt and refuse that had been dropped and trodden into them so that the stairways were converted into inclined planes. Ascending I reached the roofless floor of a ruined house. There seemed to be two or three dilapidated houses just behind the baths and their roofless rooms were filled many feet deep with all the refuse brought up from the scavengers' carts. Dust-besmirched, wretched men groped their way about carrying bags full of this rubbish from the scavengers' carts to these store-rooms or from the store-rooms to the furnace below. There were likewise many loiterers and it was difficult to conceive what they could find to do or what attraction such a place could present. Perhaps some were friends of those who really had work to do and were present as sympathetic spectators, but I mention their presence to show that all idlers who chose were admitted, and there was a still larger number of domestic animals present. A weird-looking goat peered at me from one corner, then there were several sheep and lambs, but more numerous than all were the cats. There must have been more than a hundred scavenger cats present. Cats are never molested in Egypt and these animals took no trouble to get out of the way; it was necessary to be careful so as not to tread on them. When they are tired of picking out food from among the garbage they go and lie down on one of the domed roofs and enjoy the warmth coming up from the baths which these roofs cover. Here the cats sleep till they are hungry again. Thus there are animals in numbers sufficient to make the place dangerously filthy, even if the household refuse and garbage brought in was quite clean in itself. Nor must it be thought that the scavengers especially select a cleaner sort of refuse to bring to the baths. On the contrary, it is simply household waste, green leaves, faded flowers, the peeling of vegetables, the offal of poultry or rabbits, broken pots and pans, rags and tatters, every sort of useless rubbish containing much moist and organic matter, all ready to ferment and add to the foulness of the surroundings.

In the domed roofs of the baths there are ventilators. From below there came puffs of steam through these apertures and the voices of the women and children bathing also ascended. Doubtless they thought they were cleaning themselves, but there were heaps of foul refuse piled up on much higher levels than the ventilators, and from these the dust descended through the apertures on to the bathers' naked skin just when the pores were open under the heat of the bath, and commendable as the practice of frequent ablution may be I felt that in Cairo it must have its risks. This particular hammam takes 186 cartloads of rubbish per month, and the stench and the flies engendered in this vast quantity of garbage and other refuse are appalling. Yet the hammam is in the very heart of the city and within a stone's throw of the headquarters of the army of occupation. From amid all this dirt I was able to look up at these headquarters and see British soldiers leaning out of the windows ready to breathe the dust the wind might bring them from the abominable accumulation of filth on which I stood. On leaving this hammam I went to several other similar but smaller establishments. The conditions were much the same. Evil-smelling refuse piled up in courts, dilapidated houses and roofs situated at the back of the baths and peopled by innumerable cats, together with some bigger animals, such as sheep, goats, and occasionally by geese. In one case there was a bakery with the rubbish on one side and a rag merchant's depôt and sorting place on the other side. Thus, from whichever side the wind might blow it would convey dust from a foul source on to both the moist dough and the baked loaves. The baker worked quite unconcernedly and evidently had no idea that his bread might easily be contaminated. Naturally no food should be exposed near places where refuse is stored and handled. As the scavengers' carts are emptied by hand into bags and their contents carried in small quantities at a time there is a great scattering of the dust, and this should not be allowed in narrow streets and thickly populated districts, particularly when food is exposed for sale close at hand.

The utilisation of household refuse for fuel thus gives rise to a serious and dangerous nuisance, and this in all parts of the town, since there were no less than 49 bath furnaces alight when I inquired into the matter, and there remained ten other bathing establishments that might also be utilised at any moment. On the other hand, if some portion of the refuse was not consumed by the bath furnaces then the difficulty caused by the accumulation of this rubbish just outside the city would be aggravated. Further, these furnaces not only warm the water for the baths but cook the beans in oil which constitute one of the staple articles of food for the people. These are brought in large earthenware jars and baked in the furnace. For cooking at home the only cheap fuel available are cakes of dried dung which make an evil-smelling smouldering fire. Obviously, therefore, one of the first necessities is some form of clean and cheap combustible material, such as, for instance, oil if no coal can be found near at hand. All foul rubbish could then be treated as manure and not employed as fuel save in some manner which is not antagonistic to public health.

There is also in Cairo a great danger that the dumping ground may be converted into sites for building purposes. On the other side of the Nile close to a main road passing near the Dookhi village there was a depression in the land and in this hollow water accumulated. Thus during several months of the year there was a pond of dirty stagnant water. Undoubtedly it would have been a good thing to fill up this hollow and level the ground, but of course this should be done with good clean wholesome earth or sand. The hollow has been used as a dumping-ground for household refuse Here the scavengers have brought thousands of cart-loads of all the rubbish they could collect. The hollow to the depth of six feet is now filled, the refuse flattened out and already children from the village play upon it as if it were a field, while herds of goats go there to see if they can scratch up and disinter some eatable garbage. This newly created field of filth is at the angle formed by the main road and a by-road leading to the village. Here at this angle two shanties have already been constructed and both for the sale of food. The shanty to the right of the illustration (Fig. 4) is a native restaurant.

FIG. 4.

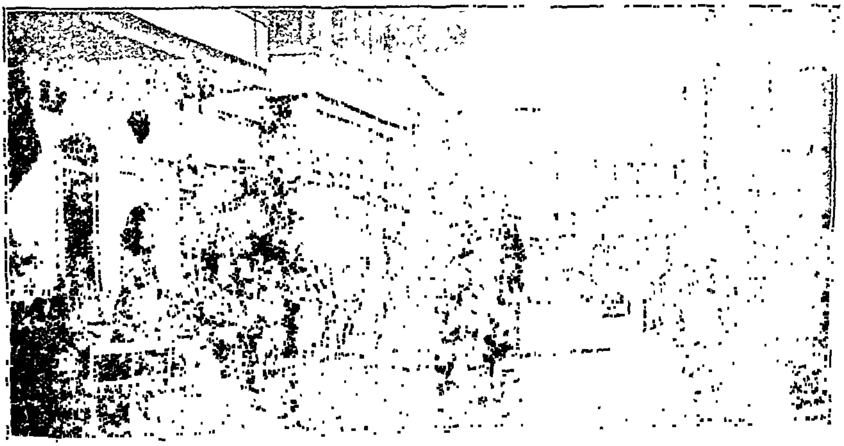


Shanty on the edge of the dumping ground, which was lately a pond. Note the proximity of a good dwelling house and the garbage heaped on the roof.

Outside, under the rough verandah, soup and sausages other cooked viands are exposed for sale. As if fearing tl would not be enough flies or sufficient dirt settling on food and coming from the neighbouring field made of refuse, some of the rubbish which the scavengers brought has been piled up on the roof of the shanty, as shown by the illustration. When I asked why this was done I was informed that the object was to make the roof thicker and therefore the inside of the hut would be
That this thickening consisted o
not trouble the minds of anyone
matter worse, the little hut immediately opposite is a small butcher's shop, and here meat is hung up to receive the flies and the dust from the vast area which has been converted into a scavengers' dust depôt. Doubtless the village, which was separated from the main road by the hollow, will now extend and houses will be built over the field of rubbish. The administration of the City of Cairo is not responsible for this abominable and dangerous proceeding, as the left bank of the Nile is within the Province of Gizeh.

The same evils, however, are likely to arise on the Cairo side. Indeed, I was informed that the Finance Department of the Egyptian Government had recently proposed to sell for building purposes some of the land that had been used for dumping the scavengers' refuse. The Road Sweeping Department, I understand, ventured to protest that such land was not fit for habitation. Thereupon the Finance Department replied, implying that it was an impertinence for street sweepers to interfere with State finance! Also, I heard that it had been decided to allow some enterprising individual to build working men's dwellings on the great dust depôts if he would first remove four metres deep of the rubbish. But where could he take this rubbish when removed? Obviously it is necessary to study and to bring forward some great scheme for the redemption and cultivation of absolutely
ish accumulated
The scavenger carts should be emptied into railway trucks and everything taken some 10 to 20 miles away from Cairo.

FIG. 5.



A low-lying street in Cairo flooded after a severe rain, owing to absence of sewers and drains.

In regard to collecting the refuse and to sweeping and keeping the streets of Cairo clean, the work is well organised and supervised; but, as already explained, not always effective because the service is undermanned. As might be expected, the Europeans are far and away the most untidy and the most difficult to deal with. No rule can be imposed on them. They will throw their refuse into the streets just after the latter have been cleaned. The scavenging department has erected large metallic receptacles in convenient places and calls upon the populations to put their
and not to throw it on the pavement
nsiderable
but many
of the Europeans defy the authorities and refuse to give themselves any trouble. The Copts—that is to say, the few native Egyptians who are Christians—imitate the

latter and are nearly as dirty, untidy, and difficult to keep in order as the Europeans themselves. They also display no regard for the injunctions issued and requests made by the scavenging department, but throw any garbage or offal into the street without hesitation.

There is great difficulty in dealing with all such minor offences. The native police hesitate to embroil themselves in proceedings against foreigners. If a European is justly prosecuted he will probably be condemned, but the native officer will do his best to avoid making an investigation and he does not clearly understand the European laws on evidence. Then the native police have no right of entry where Europeans dwell. Thus, for instance, if an Italian living in a second-floor flat throws filth into the street or shakes his carpet from the window at the wrong hour, the native police may persuade the Italian consul to consent to a reprimand being made. The sanitary authority could then enter the second floor flat if accompanied by the Italian consul. But the house may belong to a Greek, and then the sanitary authority cannot enter and pass through the lower part of the house so as to reach the second floor unless the Greek consul also gives his consent, and it is not likely that two consuls would hold the same opinion as to the importance of the offence committed. In such circumstances it is not surprising that many minor offences are passed over unnoticed if the culprit is a European protected by the Capitulations. But if there are many Europeans who are lax in the fulfilment of their duties of citizenship and are too careless to observe the rules and regulations drawn up for the common benefit of the entire community, they are quick enough to complain when anything happens that is personally inconvenient. Thus when it rains, and this may occur perhaps three times in the course of a year, the European will make a terrible fuss if there is a small puddle of water before his house. His virulent complaints will draw members of the over-worked staff away from quarters of the town where it is not a question of puddles but of regular floods that keep people prisoners in their houses.

This question of the floods is a very serious matter which fortunately will be solved by the drainage scheme. These floods occur in certain low-lying streets because there are no drains. Their extent is shown by the accompanying illustration (Fig. 5). The rain-water accumulates in these streets and there is no gradient for it to flow away. If left to itself the water would remain there until it had soaked into the ground or evaporated. Now powerful engines are sent and the water is pumped up into tank-carts and taken away. But before this can be done the water has mixed with such a filthy soil and surroundings that it gives off the foulest odours. The scavengers engaged in the work often turn sick, vomit, and lose the use of their voices for a few days. They are such sturdy men, however, that they are none the worse in the long run; at least, this was the statement made at the scavenging department. But however this may be, the fact that the men are sick confirms what I said, when dealing with the drainage scheme, as to the contaminated character of the soil on which Cairo stands. It shows also how much cleaning will be necessary before Cairo can become a salubrious city.

Not only will sewers have to be laid, but there are large districts covered by the vilest slum property that must be pulled down and rebuilt. Nowhere is the problem of the housing of the poor more acute than at Cairo. In regard to the drainage question I have shown that there is fair hope that this problem will be solved satisfactorily. Nor should there be any unsurmountable difficulty in obtaining an unlimited supply of efficiently filtered Nile water. The scavenging department is admirably organised; it only needs more money and more men. But when they have collected the refuse they have no efficient means to ensure its sterilisation. Some people imagine that it will be naturally disinfected by the action of the sun. There can be no more dangerous fallacy. Long before the sun has exercised its purifying action the wind has scattered dust far and wide. Also millions of flies have been bred and they convey from their native dust heap whatever germs it may contain and deposit them on the people or the food over which they crawl and disport themselves. A general scheme for the disposal of refuse will have to be formulated.

The housing problem in Cairo, the prevention of the adulteration and the contamination of food, the lack of power to impose protective measures against such diseases as small-pox, and other very important questions have also to be taken in hand. These are problems for the future, and I should like to have said more about them and also to have recalled in some detail the very excellent work that has been done to nip in the bud outbreaks of cholera and plague. But for the moment, at least, I have written enough about the sanitary problems of Egypt. It only remains for me to express my gratitude to the many persons who have assisted me in my task. At the Ministries of the Interior and of Public Works I found willing and courteous aid. The Khedival Medical Society made me the guest of the evening at its annual banquet. The Association of the European Press organised a special entertainment in my honour. To the European and the native press I am indebted for the very large publicity which they have given to my endeavours to promote the cause of hygiene in Egypt. The Egyptian Institute also held a special meeting at which I delivered an address on public health questions, and the leaders of the intellectual and scientific society of Cairo honoured me by their presence. Many persons in their individual capacity called on me and offered to help in my investigations. Altogether I was in the happy position of feeling that there was a real desire in Cairo to hear an independent report upon the sanitary matters of the city. I hope I have contributed to the stimulation of sanitary progress. Such, at least, has been the mission on which I was sent, as well as my only aim.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

The University of Bristol.

THE various public bodies which are to assist in the government of the University of Bristol are electing their representatives. The Bristol city council has chosen for the court one life member (Alderman Elkins, chairman of the education committee) and ten others, and for the University Council five more. The General Medical Council was lately reminded by its President of two clauses in the Bristol University Bill, one empowering the University to examine for, and grant, Diplomas in Medicine, Surgery, and Midwifery; the other giving the Council of the University the right to elect a representative to be a member of the General Medical Council.

The Association of Alumni.

This association held its first annual meeting on June 9th at University College, Bristol. Professor Lloyd Morgan, the Vice-Chancellor of the University, who was in the chair, outlined the scope of the association, which would aim at bringing old friends together. It would, no doubt, correspond closely to convocation as far as the *personnel* of both is concerned; but the functions of the two would be different and would therefore not overlap. The Chancellor of the University, Mr. H. O. Wills, has kindly consented to be the honorary president, the acting president being Mr. G. Munro Smith, surgeon to the Royal Infirmary. The committee consists of the officers with two representatives from each of the four faculties. There will be an annual subscription of 4*s.*, life membership being conferred on subscribers of two guineas.

A Faculty of Commerce.

An address recently delivered before the Bristol Chamber of Commerce by Professor H. B. Lees Smith, who occupies the chair of economics at the new University, has been reprinted for general circulation. It is a most interesting and cogent plea for the foundation of a chair and a faculty of commerce. Professor Lees Smith, after alluding in general terms to the complexity of commercial enterprise under modern conditions, and the consequent need for special education of those entering upon such a career, gave a sketch of a curriculum which might be adopted by a faculty of commerce. The first year might include the study of a foreign language, economics, commercial geography, and public administration. Second- and third-year students might take up accountancy, commercial correspondence, and the technique of trade and commercial law. Owing to the diversity of commercial careers the curriculum would have to include a number of optional subjects. Under this heading he suggested a second foreign language, one or more scientific subjects, the history, theory, and organisation of banking, of foreign trade, and of transport, life and marine insurance, and the structure and organisation of some selected industry. The student might go through this course by means of evening lectures, while working in a business house, thus obviating any delay in the opening of his career. As a start Professor Lees Smith asked for a sum sufficient to endow a chair of commerce (which, he explained, would not be occupied by himself), with a salary of £500 or £600 a year.

The Late Dr. Hugh Montgomerie.

On June 2nd there was a large gathering at the West Cornwall Infirmary, Penzance, when the Lord Mayor of London unveiled a tablet, which had been placed over a bed endowed to the memory of the late Dr. Hugh Montgomerie, formerly honorary physician to the institution. The Lord Mayor said that Dr. Montgomerie was a bright example of many members of the medical profession who labour greatly among the poor without fee or reward.

An Action for Libel.

At the Hereford assizes on June 11th, before Mr. Justice Ridley, Dr. Harold Bertie Dickinson sued Mr. Stephen Beeson, a veterinary surgeon, for slander and libel. The evidence showed that acting upon information which had been supplied to him, the defendant accused the plaintiff of failing to notify to the medical officer of health a case of scarlet fever, and in his capacity as town councillor spoke of "this demon's carelessness," "diabolical conduct," also saying that "he ought to be drummed out of the town." The plaintiff stated that he did not notify the case earlier because he was not absolutely certain of his diagnosis. The jury returned a verdict in favour of Dr. Dickinson for £100, being £50 for the slander and £50 for the libel. The judge said that the defendant used very strong language and was undoubtedly in [illegible] previously been [illegible] Dickinson for [illegible] in his favour.

Longevity.

On June 9th, when the Prince and Princess of Wales were driving from Newquay (Cornwall) to the Royal Cornwall Show, which was being held at St. Columb, Their Royal Highnesses halted at St. Columb Minor to receive the respectful homage of Mr. James Carne, who is now in his 104th year. Mr. Carne enjoys good health and takes a daily walk.—Mrs. Margaret Arthurs of Rowde House, Bath, celebrated the 101st anniversary of her birthday on June 5th. Bath has another centenarian, Mrs. M. Henersley, who celebrated the 103rd anniversary of her birthday last October.

June 15th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Resignation of Professor Bennett May.

Professor Bennett May has resigned his appointment as professor of surgery, and in accepting his resignation the Council of the University expressed its regrets and gave to Professor May its best thanks "for his valuable and distinguished services to the Birmingham Medical School during a period of 33 years." It is quite certain that not only the Council but also his old colleagues and friends regret very much that the time has come when Professor May has felt that he must sever his connexion with the active work of the University. Those of the younger generation who have only been associated with Professor May since the foundation of the University scarcely understand the debt the Medical School owes to him, but his older colleagues, who know how he worked and sacrificed himself and was true to the best traditions of the school in the darker days when its fate wavered in the balance, appreciate to the full the work he did—work which helped so materially to place the school in the comparatively excellent position which it holds to day.

The New Nursing Home for the General Hospital.

In opening the new nursing home in connexion with the General Hospital, the Lord Mayor of Birmingham congratulated the board of management on the latest addition to the hospital, and said that "no similar institution in the kingdom could claim to be more complete or perfect than the General Hospital." The erection of the new home was necessitated by the continued increase in the numbers of the nursing staff. This has resulted, in great part, from the growth of the number of operations, which has increased from 1496 in 1898 to 3975 last year. The new home, which will cost about £8000, is conveniently situated; it contains 43 bedrooms, a class-room for instruction in cookery for the sick, it is thoroughly well equipped, and it forms a very satisfactory addition to the conveniences of the hospital.

The Hospital Sunday Fund.

At the recent annual meeting of the Hospital Sunday Fund the Lord Mayor was elected President for the coming year. [illegible] influence the subscriptions, and he appealed to those who favour the present conditions to do their utmost to sustain them. Dr. Jowett, however, was not satisfied that the problems suggested by the Bishop really had much influence at present upon the bulk of the people who formed the religious congregations, and he considered that if an endeavour were made to enlarge the general interest in hospital work increased support would be obtained. In accepting the appointment of President, the Lord Mayor said that those who believed that our medical relief agencies should be maintained on the present basis had not much to fear, for legislative changes which would throw the burden on the local communities would not be made till large majorities were in favour of the change.

The Bagnall Small-pox Hospital.

Suggestions are being made that the Bagnall Small-pox Hospital should be utilised as a sanatorium or convalescent home. If [illegible] siderable [illegible] costs £900 [illegible] have been no patients. On the other hand, if the hospital was not available and an epidemic occurred, the North Staffordshire district might be in a deplorable condition. The authorities will no doubt carefully consider all sides of the question before they deprive themselves of what might at any moment prove a vital necessity. And possibly a way may be found to make use of the hospital for some purpose which will not alter its general character and which will not prevent its use for its initial purpose should the necessity arise.

Lymphatism and Chloroform.

At an inquest held recently in Wolverhampton to inquire into the cause of death of a girl who was being operated upon in the Wolverhampton Hospital, it was explained that the patient, who was undergoing an operation upon a deformed foot, was apparently a healthy girl. According to the statement of the house surgeon, the patient began "to come round" before the operation was completed and then suddenly stopped breathing. Artificial respiration was resorted to and breathing recommenced. The operation was then proceeded with, and in a few minutes the breathing again stopped and all attempts to resuscitate the patient, [illegible] and the jury found a verdict in accordance with the medical evidence.

The Past and Present Sanitary Condition of Dudley.

In his annual report Dr. J. H. Wilkinson, the medical [illegible] when [illegible] and the state of affairs which prevails to-day. The death-rate varied from 32 to 36 per 1000; 150 people died from scarlet fever, 65 from cholera, and typhus fever was very prevalent. In certain districts there were about 6000 people with practically no water-supply and the general water-supply was very defective. Last year the general death-rate was 15·28 per 1000; the zymotic death-rate 1; there was no epidemic of zymotic disease, and there were very few houses which were not supplied with water. The contrast displays in a most effective way the improvement of public health which can be obtained by continued work on good lines.

Annual [illegible] of [illegible] Norton.

Dr. R. Green's annual [illegible] officer of health, upon the King's Norton and Northfield urban district shows how rapid the growth of the population has been in a comparatively short period, the total estimated population in 1907 being 75,508, and by the middle of 1908 it had increased to 78,608, whilst the total number of births over deaths was 1081. The immigration which has taken place has no doubt been largely due to the provision of trams and cheap houses, a combination of circumstances which has resulted in the migration of many people from the poorer parts of Birmingham, and which has made Dr. Green anxious to establish in the interest of his district some provision for the practical education of the mothers. He is anxious to keep down the infantile mortality rate, for, as he points out, though the births exceeded the deaths and the number of births was considerably greater in 1908 than in 1907, still the birth-rate (25·54 per 1000) was the lowest recorded, and the death-rate was 10·78 per 1000 as in 1907. Dr. Green notes that the male births greatly exceeded the female births, 1015 to 914, and that 76·1 per cent. of the children were vaccinated, that being 7 per cent. less than in 1907.

June 15th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Post-mortem Examinations in Workhouses.

SOME discussion, animated if not angry, took place at a meeting of the Chorlton guardians held on June 11th respecting a post-mortem examination made a few days before on a patient who had died in the Withington workhouse. The patient died, it is stated, from "pneumonia accelerated by delirium tremens," but after his death one of the medical officers suspected typhoid fever, and his colleague made a post-mortem examination. Before doing so he asked the consent of the patient's widow, "to determine whether typhoid was present or not, as it was a serious matter in a large workhouse." According to the widow and a sister they were told that unless they consented to a post-mortem examination there might be a difficulty in regard to the death certificate, and that the coroner would probably order one to be made. In answer to the coroner as to why he was named, the medical man in question said he did it "accidentally and in the interests of the institution," as he thought it ought to be known definitely whether typhoid fever had been present or not, and, while regretting his action, disclaimed the intention the coroner had suggested of an attempt to frighten the widow. The coroner said that the proceeding was "not merely indiscreet but most improper; the case was one which never would have come before him," and he required an assurance that such a thing would not occur again. It is a serious thing to question any of the dicta of a constitutional authority, but it may be conceived possible that the coroner, usually so judicial, may have been unduly angry at something which the medical man did not intend. It is curious that no mention was made at the inquest of the question of typhoid fever, for in that case to the verdict, "Death from natural causes," the jury would not have added their view that "the doctor should be censured." This might be called a rider to the verdict, to which the coroner seems to have offered no objection. At a meeting of the Chorlton guardians on June 11th the matter led to a long discussion, one or two of the guardians saying that intimidation had been used, that a record ought to be kept of such cases, and that the medical men held this examination in their own interest. Another guardian, a woman, said that far too many post-mortem examinations were made at Withington, and no one benefited by this one but the medical man who made it. "The hospital should not be a practising ground for young doctors." The chairman protested against such charges being made. Another guardian said that they were absolutely without foundation; permission was given prior to the name of the coroner being mentioned but there were objections, and the medical man explained that if the case went to the coroner there would probably be an examination. Anyone who has seen much of workhouse practice will be prepared for some discrepancy in the statements of relatives at different times, but it is a pity to see guardians, presumably of some education, using such wild words of condemnation as were indulged in by some of the members of the board. It is not likely that a medical man, even if young, would undertake something so unpleasant as a post-mortem examination unless he believed that some increase of knowledge might result which would probably benefit his fellow men.

Whisky and Saffron in Measles.

At an inquest held yesterday by the Manchester coroner, Mr. Gibson, on the death of a child from pneumonia during measles, the mother said that when she found the child had measles she gave it saffron and whisky. This is a common proceeding in a certain stratum of the community, and Mr. Gibson told the jury that 99 out of 100 parents gave saffron and whisky and such like things when children had measles. This is a remarkable testimony to the quality of the compulsory education bestowed on the children of the nation for more than 30 years. The coroner expressed the hope that sooner or later people would be educated up to the fact that measles is a particularly fatal disease and that they would pay more attention to their children and call in a medical man when they have this disease. Is this a vain hope, or may we look in the future for more common sense being infused into the education of the coming generation?

Electrical Dangers.

The dangers of our present arrangements for making use of electricity were alluded to quite recently, but may again be illustrated by the occurrence in Manchester of a serious explosion early yesterday morning. Happily it took place about 2.30 A.M., and though sufficiently disastrous, there was no loss of life. A policeman saw a cloud of black smoke coming from the main entrance of the Victoria Arcade. Before he could get there a heavy report took place, followed by a blinding flash and a sheet of flame which was said to be 20 feet high. Simultaneously, the huge revolving iron shutters which bar the entrance to the Arcade, and which were closed, were blown out bodily, and a large portion of them was carried right across the street. Hundreds of windows were wrecked, offices were dismantled, solid concrete from the pavement was hurled in every direction, and a brick broke through a plate-glass window on the opposite side of the road. The whole of the front of a bank was forced out, the floor torn up, and books scattered all over the place. Other premises were also much injured, the windows wrecked, and fittings badly damaged. Inside the Arcade hundreds of panes of the lofty glass roof were shattered. The explosion also wrecked the gas and water mains, and at the entrance "a hole was made fully six yards deep, 14 yards long, and five yards wide." The damage, which cannot as yet be accurately determined, is estimated at £5000. If the explosion had occurred in the day-time the fatalities would probably have been numerous. It was said that the fault occurred at a point where the service wires laid into the Arcade are joined on to the [illegible]ng St. Mary's Gate under the foot-path. [illegible] which was the primary cause of the disaster, was old, dating from 1896. These old joinings are being rapidly replaced by improved ones, but unfortunately not in time to prevent accident. The first indications of mischief were almost like the precursors of an earthquake. At 1.45 A.M. the recording instruments pointed to a slight disturbance near Deansgate. The "standby" men were sent out but could find nothing wrong. About 2 A.M. complaints were made from the Victoria Hotel and several printing offices, but the standby men sent out again could still find nothing wrong. This little story shows what a terrible power we are using and the absolute need there is for keeping it under control. We hear far too much of fused wires.

June 16th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool School of Tropical Medicine; the Expeditions and their Work; Complimentary Dinner.

WITHIN the last few months there have arrived in Liverpool a number of scientific gentlemen who had been sent out, under various expeditions, to the tropics by the Liverpool School of Tropical Medicine. Their successful researches and their return were made the occasion on June 14th of an interesting function at the University club, where the gentlemen in question, 12 in number, were entertained to dinner by Sir Alfred Jones, the chairman of the school. The principal guests were Professor Sir Rubert Boyce, Professor Ronald Ross, C.B., Professor J. L. Todd, Dr. J. O. W. Barratt, Dr. Anton Breinl, Dr. A. H. Hanley, C.M.G., Dr. Allan Kinghorn, Dr. H. Wolferstan Thomas, Dr. W. Prout, C.M.G., Dr. Warrington Yorke, Mr. R. E. Montgomery, and Mr. R. Newstead. A number of prominent citizens were also invited. Before proposing the toast of "The Expeditions" the chairman asked the company to honour the memory of two members of the school—Dr. Walter Myers and Dr. J. Everett Dutton—who had lost their lives on expeditions. The toast was honoured in silence, all present rising. Sir Alfred Jones, in proposing "The Expeditions of the School," said that Liverpool had done a great deal in setting an example to the world of what might be done to benefit the tropics. That gathering was representative not only of British students but of students from all countries, and especially from Canada. In Africa the death-rate had been appreciably reduced by the efforts of the various expeditions. It was a great satisfaction that other countries had worked together with them, including America, France, Germany, and Sweden. Mr. Newstead and Professor Todd replied to the toast. The toast of "The Study of Tropical Medicine" was acknowledged by Dr. J. W. W. Stephens (Walter Myers lecturer in the school). Sir Edward Evans, in proposing "The Chairman," said that one of the greatest causes for the benefit of mankind had been brought to a successful issue. This had been due very much to the energy and force exhibited on all occasions by their host. Sir Rubert Boyce testified to the great interest which Sir Alfred Jones took in regard to tropical medicine. Professor Ross also spoke to the toast. The chairman, in responding, remarked that Liverpool ought to do more for the Tropical School. He had written to the bishop of the diocese, suggesting that they ought to have a "Tropical School of Medicine Sunday," just as they had a Hospital Sunday collection.

William Mitchell Banks Memorial Lecture.

The date of the William Mitchell Banks memorial lecture has been fixed by the council of the University of Liverpool for August 4th, at 4 P.M., in the surgical theatre of the medical school. The date is a little unfortunate for obtaining a large audience owing to the holiday season, but it had to be so arranged to meet the convenience of the lecturer, Dr. Harvey Cushing of Baltimore. Dr. Cushing is associate professor of surgery at the Johns Hopkins University, Baltimore, and from his distinguished surgical reputation it is anticipated that there will be many in Liverpool desirous of hearing his address.

Liverpool Hospitals and Civic Grants.

The Liverpool finance committee has recommended the city council to authorise the Parliamentary committee to include in its next application to Parliament power to contribute a sum not exceeding £5000 towards the erection of the new building for the out-patient department of the Royal Infirmary, subject to the Infirmary committee raising the balance of the money necessary (probably £45,000) to complete the building. Towards the erection of the out-patient department of the Royal Southern Hospital the finance committee recommended a contribution by the corporation of £4000.

June 15th.

WALES.

(FROM OUR OWN CORRESPONDENT.)

Death of Mr. John Henry Williams, M.R.C.S. Eng., L.S.A.

THROUGH the death on May 27th, from pneumonia, of Mr. John Henry Williams, the medical profession in the Swansea district have lost a most agreeable and popular colleague. He was born in North Wales in 1858 and received his medical education at the London Hospital, subsequently p[illegible] About 14 years [illegible] a fair share of [illegible] a great interes[illegible] officer of [illegible] byther, Carmarthenshire. [illegible] life of his adopted town, he [illegible] cil of Aberavon in 1896 and was mayor in 1901. As a member of the Swansea port sanitary authority, whose area of administration extends to Port Talbot and Aberavon, he rendered conspicuous service. He was on the commission of the peace both for the county of Glamorgan and for the borough of Aberavon. Mr. Williams had only been married about eight years, and leaves a widow and two children to mourn their loss.

Cardiff Asylum.

The great increase in the population of the county of Glamorgan, which in the ten years ending 1901 was nearly 180,000, made it necessary for the county council to insist upon the Cardiff corporation providing separate accommodation apart from the Bridgend Asylum for insane persons who are chargeable to the Cardiff Union. The institution erected by the corporation for the purpose is situated just outside the boundary of the borough and has accommodation for 750 patients, with administrative facilities for 1250. It has been occupied a little more than a year, and already on the male side the available accommodation barely suffices for the needs of the town, although on the female side there are nearly 100 vacant beds. In these circumstances the asylum committee is endeavouring to prevail upon the board of guardians to provide accommodation in the union buildings for certain imbecile and epileptic patients, who it is considered might be cared for in a less costly manner than is found to be possible at the asylum. The weekly cost per patient at the asylum during the first year of its occupancy was 13*s.* 5*d.*, but this sum has now been reduced to 13*s.* 1½*d.*

The National Library of Wales.

In the distribution of the national institutions the Welsh Museum is to be located in Cardiff and the Welsh Library in Aberystwith. At a meeting of the court of governors of the National Library held on May 29th, and presided over by Sir John Williams, it was reported that six plans had been received in competition for the proposed buildings which it is intended to erect at a cost of between £70,000 and £80,000. In the plans selected [illegible] in the form of a quadrangle, the [illegible] in the centre at the front, fla[illegible] exhibition hall and on the other by the great library hall. The quadrangle is completed by the book block which is arranged to hold 332,000 volumes. In the library hall an additional 100,000 books can be arranged within sight of the readers, while the exhibition hall provides space for the exhibition of rare and interesting books, manuscripts, &c. The administrative block includes council and committee rooms, with rooms for the librarian and the president.

Crime in South Wales and Monmouthshire.

For many years past the northern, central, and western parts of Wales have been remarkable for the absence of crime among the inhabitants. In the colliery districts of South Wales and of Monmouthshire the very reverse has been the case, and there is rarely an assize held at which one or more revolting crimes have not to be investigated. At the Monmouth assizes on June 7th a young collier, 24 years of age, was sentenced to death for the murder of a farm woman who was nearly 60 years old. The evidence showed that he first of all shot her in the face, he then outraged her, and finally cut her throat. In spite of these injuries the woman was able to walk to a neighbouring farm, whence she was taken to a hospital, and she lived until May 5th, the attack having been made upon her on Feb. 20th. The evidence of the county analyst was of interest from the point of view of medical jurisprudence, for he stated that he had discovered on the man's clothing as well as on that of the woman certain fibres which had the same characteristic appearances, and that fibres of a similar kind were subsequently found in the composition of the mat upon which the woman declared she had been thrown by her assailant.

The Aberdare Medical Officer of Health.

The action of the Aberdare urban district council in attempting to place upon its medical officer of health duties which should properly be performed either by a veterinary surgeon or by an analyst has already been discussed in THE LANCET.[1] It will be remembered that the council, in re-appointing Dr. M. J. Rees for a further term of one year, sought to impose a condition that he should examine the milk supplied to the district for the purpose of ascertaining if it had a tuberculous origin. Dr. Rees very properly declined to accept re-appointment on these terms, and upon the matter being referred to the Local Government Board his action was upheld, and the Board recommended that he should be appointed on the same terms as formerly except that he should not come up for re-election year after year. It is gratifying to find that the council has now by a very arge majority carried out this suggestion.

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[1] THE LANCET, March 27th, 1909, p. 930.

June 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Resignation of Professor John Cleland.

AT a meeting of the Court of the University of Glasgow held last week a letter was read from Professor John Cleland intimating his resignation of the Chair of Anatomy which he has held since the year 1877. Throughout this long period he has been a great personality in the University, and much respected and admired by the many generations of students who have passed through his hands. Among the more important of his writings are his thesis on the structure and mechanism of the gubernaculum testis, and his papers on the development of the skull and cranial variations, which appeared in the Philosophical Transactions of the Royal Society of London in 1862 and 1870. Recently Dr. Cleland collected in a volume, entitled "Memoirs and Memoranda in Anatomy," many of his contributions to the literature of the subject during the last 40 years. In his text-book, published in association with Dr. J. Yule Mackay in 1896, he included much of his own original work. Another volume of his, entitled "Evolution, Expression and Sensation," includes his speculations on the great problems of thought as they present themselves to the naturalist. As a monument in the University Dr. Cleland leaves behind him the splendid anatomical museum which has been built up under his constant supervision. The University owes him a deep debt of gratitude for the development of his department and also for procuring for it buildings commensurate with its importance.

Sidlaw Sanatorium.

At a meeting on June 8th the last word was said as regards the cancelling of the arrangements between the directors of the Sidlaw Sanatorium and the Dundee town council providing for the transference of the institution to the latter body. At the commencement of negotiations the donors and annual subscribers to the institution passed a resolution in favour of the agreement which was adjusted between parties, and which, besides handing over the buildings, established a new body of trustees, in whose hands the endowments should remain. As a result of the opposition to the movement the Dundee town council reversed its decision, and asked that the donors and subscribers to the sanatorium should consent to render the agreement void. As stated at a meeting on June 8th they agreed to this, but in addition they altered the constitution so that power might be possessed, subject to the approval of the Secretary for Scotland, for handing over the buildings and equipment at a future time to the corporation, and establishing, when and if that time comes, the new body of trustees.

Insanitary Condition of Lewis.

A special meeting of the Lewis district committee was held on June 9th. The meeting considered the motion of the chairman, Provost Anderson, to the effect that—

> In view of the large number of insanitary houses in Lewis, caused principally through cottars having been allowed to erect houses in clusters about the dwelling houses and byres of the crofters; and, further, in view of the fact that the cottars made no contribution towards the cost of education, poor relief, roads, public health, and [illegible] nes do not appear on the valuation roll [illegible] pro- [illegible] the [illegible] the [illegible] d to be acquired from the respective townships, moors, grazings, or skinned lands, or on other suitable lands; and, further, that the committee respectfully ask His Majesty's Government to help in the matter by giving grants or loans for the building of suitable dwelling houses for such cottars as may be so settled, and also for reclaiming portions of the skinned or other lands referred to, and that copies of this resolution be forwarded to Major Matheson, the Secretary for Scotland, and the Lord Advocate.

In submitting the motion, Provost Anderson referred to the unfortunate state of matters in Lewis as regards public health. This was entirely due to the number of houses crowded together on crofts. The only practical remedy was to have these houses removed and fresh sites obtained for new houses. He believed that the Government would help in the matter. The committee had been pressing the matter for 15 years, and he thought that the time had come when the committee must strenuously press the matter upon the proprietor and the Government. The motion was seconded and carried. The clerk was instructed in forwarding the motion to the proprietor to state that the committee would be pleased to confer with him if desired.

Aberdeen University Court: Resignation of Professor Ogston and Dr. Angus Fraser.

The Aberdeen University Court met on June 8th. The letter from Professor Alexander Ogston resigning the chair of surgery in the University was submitted. Professor Matthew Hay, who presided, moved that they enter in their minutes an expression of their appreciation of the value of the eminent services which Professor Ogston had rendered to the University as a teacher and investigator of the highest order and of their regret at his retirement. Professor Hay also referred to the loss in the medical teaching staff occasioned by the retirement of Dr. Angus Fraser from the senior physicianship at the Royal Infirmary. The reconstruction and reorganisation of the infirmary was largely due to his initiative. There was not one of their many medical graduates in all parts of the world who would not feel that the University had for them lost much of its glamour in the removal from its medical school of the names of Hamilton, Ogston, and Angus Fraser.

June 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Presentation to the Governor of the Apothecaries' Hall, Dublin.

THE members of the Apothecaries' Hall, which has the distinction of having been founded by the Irish Parliament in 1791, met on the evening of June 11th for the purpose of presenting a piece of plate to Dr. G. R. Seymour Stritch, J.P., their Governor, on the occasion of his marriage. Colonel Adye-Curran, M.D. Dub., F.R.C.S. Irel., occupied the chair, and amongst the other members present were Mr. C. J. Powell, Deputy Governor, Dr. E. Magennis, J.P., Mr. O'Connell Delahoyde, Mr. J. T. D. Crinion, Mr. W. F. Delany, Mr. J. Evans, Dr. E. F. Hanrahan, Mr. J. A. Whelan, Dr. J. C. McWalter, and Mr. H. W. Mason. Colonel Adye-Curran remarked that it was a unique circumstance to have a Governor of the Apothecaries' Hall married during his year of office, although they had an unbroken series of men occupying that honoured post for 150 years. He begged Dr. Stritch to accept of the service of plate, not for its intrinsic value, but as a proof of the high esteem in which he was held by his colleagues for his genuine good fellowship, his high scientific attainments, his invariably courteous demeanour, and his uniformly amiable disposition. He trusted that both himself and Mrs. Stritch would long be spared to brighten the lives of the directors by their friendship. Mr. Powell, Dr. Magennis, and other members of the board also felicitated Dr. Stritch on his marriage and expressed their delight at being able to give him some mark of their appreciation. Dr. Stritch, in reply, thanked his colleagues for their generous gift and stated that it was the proudest moment of his life and the consummation of all his ambition. He deemed it a very distinguished honour to have been elected President of that ancient corporation, the oldest licensing board in Ireland, but the generous gift of his friends had almost overwhelmed him with emotion and pride. All his life he had been averse from receiving testimonials, but this gift was so spontaneous that it would be cherished by him and his descendants as their most precious heirloom. Their presentation would stimulate him to renewed efforts in the cause of medical education in Ireland to the end of his life.

Cork Medical and Surgical Society.

The annual general meeting of this society was held on May 26th. The principal business was the election of officers for the session 1909-10. The following were the results:—Dr. D. T. Barry, professor of physiology, Queen's College, Cork, was elected President, and Dr. J. Booth Vice-President. Dr. Charles B. Pearson was elected honorary treasurer and Mr. Edward Murphy honorary librarian. Mr. James T. O'Connor was elected secretary. The council is constituted as follows: Dr. C. Y. Pearson, Mr. P. G. Lee, Dr. T. G. Atkins, Mr. Moore, Dr. M. Cagney, Dr. J. Cotter, and Dr. Lucy E. Smith.

The Belfast Corporation and the Health Commission.

At a special meeting of the city council of Belfast held on June 9th, on the motion of the Earl of Shaftesbury, it was decided by 17 votes to 9 to instruct the finance committee to pay the Local Government Board the sum demanded by it (£600) in respect of the cost of the Health Commission for the expenses of the three commissioners outside Ireland, Colonel Harding (chairman), Dr. L. W. D. Mair (London), and Dr. A. K. Chalmers (Glasgow).

The Belfast Board of Guardians.

At the annual meeting of the Belfast board of guardians held on June 9th Mr. J. S. Bryars was re-elected chairman of the board for the ensuing year. One of the older members of the board, in seconding Mr. Bryars's election, said no better chairman had occupied the position during his long period of membership.

Double Tenancies in Belfast.

There is nothing worse in Belfast from a public health point of view than the continued existence of double tenancies. The evil, though condemned by leading citizens and judges from the bench, and though well known to the public health committee, has existed for years, and nothing was really done to cope with it until the authorities were stung by the report of the Public Health Commission, which said:—

> This double tenancy was not alleged to be necessary even on the ground of poverty of the tenants, yet it has been tolerated for years, [illegible] and to the [illegible] provided [illegible] be closed [illegible] uld spare [illegible] ousing in [illegible]

The public health committee then made a sort of attempt to grapple with the evil. However, at a meeting of the committee held on June 10th it was decided to rescind a previous resolution as to serving of notices to provide the necessary sanitary accommodation, the excuse being put forward that the landlords of such abominable property prefer to give up possession of the dwellings rather than comply with the [illegible] impossible [illegible] One of the [illegible] 11th, in a leading article comments as follows on this action of the public health committee of Belfast:—

> It is the sheerest nonsense to pretend that there is not sufficient [illegible]
>
> efficiently, and appoint men who would see that hundreds of citizens were not allowed to live under conditions that would be a disgrace even to Darkest Africa.

This is indeed hitting without the gloves.

June 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Operative Treatment of Leukoplakia of the Tongue.

AT a meeting of the Société de l'Internat des Hôpitaux de Paris held on May 27th M. Fourmestraux described the case of a patient suffering from extensive leukoplakia of the tongue and treated by a slight modification of Morestin's operation—namely, complete detachment of the mucous membrane of the tongue. He called attention to the unsatisfactory nature of the results obtained in the great majority of cases by medicinal and specific treatment. The use of the bistoury for this purpose required general anæsthesia and the same precautions as in removal of cancer of the tongue, including Rose's position, short anæsthesia, and fixation of the tongue. Local or regional anæsthesia was only indicated in circumscribed leukoplakia. As in operations for cancer of the tongue, the great danger consisted in the supervention of deglutition broncho-pneumonia. Frequent washing of the mouth and as short as possible a period of confinement to bed were essential.

Sarcoma of the Scapula.

At a meeting of the Surgical Society held on June 2nd M. Mauclaire described a case communicated to him by M. Le Fort, the patient being a man, 32 years of age, who suffered from a sarcomatous growth of the scapula as large as the fist and of seven months' duration. After removal of the growth M. Le Fort endeavoured to form a humero-clavicular articulation by suturing the bones together. Primary union occurred. The sarcoma was of the nature of myeloplaxoma. Two months afterwards the movements of the limb were tolerably free, but four months later there was a recurrence of the disease which necessitated disarticulation of the clavicle for the complete removal of the growth. At the time of the operation a hissing sound was heard on two occasions, showing that air had been admitted into the subclavian vein. This had no immediate consequence, but three-quarters of an hour after the operation hemiplegia of the left side made its appearance, lasting, however, only a few days. Some months later the patient succumbed to a fresh extension of the disease, which had invaded the lung. M. Le Fort did not think that the hemiplegia was due to the entrance of air into the vein. He referred to the satisfactory action of the new articulation, which formed a kind of pseudarthrosis. M. Mauclaire said that in his opinion it would be useful for a patient in such circumstances to wear some kind of mechanical support for the limb, because pain might arise from dragging on the nerves and retracted vessels.

Chronic Inflammatory Lesions Produced by a New Mycelium.

At the same meeting of the Surgical Society M. Auvray gave an interesting description of a chronic inflammatory lesion which closely resembled tuberculosis but was due to the hemispora stellata, a fungus recently described by Villemin. The case recorded by M. Auvray was the second of its kind and has been very carefully examined. The patient was a man suffering from an inflammatory swelling in the region beneath the angle of the jaw; it was quite superficial but of so chronic a character as to have the appearance of a tuberculous lesion. After removal M. Auvray had it examined histologically and also had cultures made. Structurally it was very similar to tuberculous tissue, having giant cells surrounded by epithelioid cells. Cultivations yielded no evidence of tuberculosis but only very pure cultures of hemispora stellata. The lesions due to this fungus were therefore both clinically and histologically very similar to those of tuberculosis.

Bread-making by Machinery.

At the Academy of Medicine on June 1st M. Railliet said that the hand-kneading of dough by bakers was not without possibilities of danger for the consumers of the bread. In contrast with this primitive system he recommended the use of the dough-kneading machine and mentioned the satisfactory trials of it which had been made by the association (*syndicat*) of Paris bakers under the supervision of Professor Ringelmann and Professor Lindet. M. Railliet declared that the machine-made bread was not only in quality and appearance quite as good as the hand-made but was also cheaper. The machine fulfilled every hygienic requirement and saved the working bakers from the excessive fatigue which was so favourable to the development of tuberculosis. On these grounds machine-made bread presented obvious advantages from the consumer's point of view.

Mutual Aid Associations and Medical Practice.

The Ministry of Labour and National Thrift (*Ministère du Travail et de la Prévoyance Sociale*) has published a report on the operations of mutual aid societies during the year 1904. The section on medical and pharmaceutical expenses is very interesting. In that year the disbursements of the free societies (*sociétés libres*) included the payment of 1,600,000 francs for medical fees by 1505 societies and 792,457 francs for pharmaceutical charges by 1466 societies, the number of patients being 99,550. Another group of societies (*sociétés approuvées*) had in the same year 446,392 patients on account of whom 4,064,151 francs were paid to the medical practitioners and 4,765,166 francs to the pharmacists. In the *sociétés approuvées* each patient therefore cost 9 francs for medical advice and 10 francs 70 centimes for medicine, whilst in the *sociétés libres* the analogous charges were about 6 francs for medical advice and 8 francs for medicine. In the *sociétés approuvées* the 446,392 patients were ill for an aggregate of 7,187,441 days, and in the *sociétés libres* the 99,550 patients were ill for an aggregate of 1,456,935 days, or a general average of 14 days' illness per patient. For his attendance during these 14 days the medical practitioner received 6 francs from the *sociétés libres* and 9 francs from the *sociétés approuvées*.

Treatment of Cancer.

At a meeting of the Academy of Medicine held on May 25th M. Tuffier gave an account of his treatment of cancer by various physical methods recommended of late years, including x rays, high-frequency currents, radium, and superheated air. *In his opinion, none of these methods* of treatment were ever followed by genuine recoveries, but the observation of the manner in which they individually acted was an interesting study. The x rays had a specific influence on the cancer cells, but not on the other anatomical elements; this influence on the cancer cells was, however, limited to a depth of less than two millimetres from the surface. Radium also had a selective power of attacking cancer cells, and in course of time this effect might extend to a depth of two centimetres from the surface. High-frequency currents had no selective action on the cancer cells; whatever slight effect they produced was distributed over the tissues generally. A jet of air heated to 300° or 400° C. acted not unlike a high-frequency current, only rather more capriciously.

Medical Attendance on Pauper Patients.

The medical practitioners of the town of Chalon-sur-Saone, being dissatisfied with the system under which medical advice is given free of charge both in that town and in the entire department, have sent an ultimatum to the municipality and have resolved to cease giving attendance under the present system if the modification proposed by them is not adopted by June 30th. They request that all the medical men practising (*patentés*) in Chalon and willing to accept the position shall be placed on the list of medical attendants of poor persons. Patients will be seen at the relief office (*bureau de bienfaisance*) on Mondays and Wednesdays at 10 A.M. by the medical men on the list, each of them serving in his turn for a month at a time with a remuneration of 5 francs for each attendance. Patients requiring to be visited at home may select their medical attendants, who will receive 1 franc for each visit.

June 12th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Food and Clothes for Indigent School Children.

Dr. F. Elsrismann, town councillor and head of the sanitary department of the town of Zürich, has just published a lengthy report on the gratuitous supply of food and clothes to school children in Zürich. For many years poor school children in Switzerland have received food (either breakfast or lunch) supplied partly from private sources and partly from local district authorities at the public expense. Of late years the expenditure to be met by the ratepayers has been rapidly increasing. Already, in 1894, Dr. A. Huber reported that out of a total of 475,000 school children attending the primary schools and aged from 6 to 11 years, 25,000 were supplied with food and 30,000 with clothes. Nearly one-third (28 per cent.) of all the public schools in Switzerland had introduced this system. The children in question either lived more than half an hour's journey from the school-house or were underfed at home. In Zürich the system is as follows. A minority of the children, some 700, receive milk diet, the majority are served with a simple soup meal, sometimes with the addition of meat, for such reasons as the poverty of the parents, the poor state of nutrition of t children, absence of the parents from home at midday, th large number of the family, and the unemployment or illne of the parents. The number of children thus provided for i Zürich, which has a population of 180,000, has risen fro 256 in 1894 to 2251 in 1902-03, and to 3334 in 1907-08. Th annual outlay has increased from 7200 francs (£88) in 19 to 48,367 francs (nearly £2000) in 1907-08. During the la year over £2400 were spent for this purpose. The expense each meal varies from 1½*d.* to 2½*d.* An increasing numb of children were furnished with necessary articles of clothin (785 in 1907-08), and the expenses reached a sum of 540 francs, or about £216. The great amount that is done f the physical welfare of school-children in Zürich is evidence by the further facts that in 1908-09 a sum of £2160 was spe for [illegible] classes of supervision and recreatio als [illegible] nd a further sum of £1600 to provid 1000 children with a three weeks' stay in the Alps.

Infantile Mortality in Switzerland.

The Federal Statistical Office at Berne has published th following details on the mortality of children under the ag of one year. Since 1876 the statistics show that for ever five years the mortality per 1000 births has undergone a continual decrease from 188 to 134, the last-mentioned figure being for the period 1901-05. This decrease has continue in 1906 and 1907, when the deaths were respectively 126 an 121 per 1000 births. The different cantons vary considerably in this respect, some having a very low infantile mortality, such as Unterwalden with 79 deaths per 1000 births In other cantons the corresponding figures are exceptionall high—namely, 157 in Valais, 187 in Fribourg, and 188 i Tessin; whereas Vaud and Neuchâtel with 144, Zürich wit 124, and Berne with 121 deaths per 1000 births keep about the average.

Zurich, June 12th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Darwin Centenary.

THE catholicity of science will have fresh illustratio next week in honouring the hundredth anniversary of th birthday of Charles Darwin. Every civilised nation will join i the *festa*—none more cordially than the Italian. For month past her press, medical and lay, scientific and political metropolitan and provincial, has either devoted specia articles to the theme or given extended reports of *éloge* of the master from academic chairs. Among these latter one of the best inspired was that of the professor o the history of the natural sciences in the Roman University, Dr. Mario Cermenati, summarised about a yea ago in THE LANCET; while among the independent tributes offered by individual students to "the immortal memory" none will be read with warmer appreciation than the "Profilo," as he modestly calls it, of Dr. Alberto Alberti.[1] A brighter biography of the author of the "Origin of Species" it would be difficult to find in the same compass, and the estimate of the man and his work will be seen to have the impartiality due to a detachment which, according to Madame de Staël, makes the "judgment of foreigners that of a contemporaneous posterity." One merit it will be found to possess—a merit, I regret to say, not in all cases characteristic of Italian treatment of the same theme—abstention from anti-religious or anti-Christian polemics. As already pointed out in these columns, many tributes to Darwin, particularly in Italy, have been marred by an aggressive attitude towards the "creeds," national or nonconformist, an attitude with which Darwin himself was not in sympathy and would certainly have been the last to countenance or to encourage.

At the Vatican.

The edile, under the inspiration of Pius X., has been busy in the apostolic palace recasting the accommodation of the *personnel*, high and low, to the great improvement of its conditions, sanitary and other. Hitherto the said *personnel* has been scattered up and down and right and left in the vast tenement, or congeries of tenements, but now they will find shelter in the "grandioso edifizio" which is just completed and only waiting to be occupied. Any impatience on the part of the prospective lodgers to "enter into residence" has, however, been met by a wise veto emanating from His Holiness, to wit, that they must find temporary accommodation elsewhere until the close of the summer months, by which time the brand-new "edifizio" will be thoroughly dried. So all the *personnel* will have to clear out with the exception of the Cardinal Vicar (Merry del Val), Cardinal Gasparri, the Monsignori Bisleti, Misciatelli, and Pifferi, and the secretaries and private chaplains. Another wholesome provision will be the transference of the Vatican Pharmacy from the Cortile of San Damaso to the new edifice. The Vatican will thus be spared the unsightly spectacle, not to say the positive inconvenience, of men, women, and children armed with medicine bottles or baskets coming in from the Borgo or adjacent quarters and meeting the cardinals, archbishops, and other dignitaries face to face on their way to or from the presence of the Holy Father. The Pharmacy, I may add, sharing the privileges accorded to the Holy See under the "law of the guarantees"—a law framed by the Italian Government and partially acquiesced in by the Vatican—can provide medicines, surgical appliances, and such like articles at a cheaper rate than the rival establishments outside, as it pays no octroi duty, nor "business tax," nor house-rent, and gets its lighting and heating gratis. It is much resorted to accordingly by more than the "faithful," and has been found a convenient and freely utilised mode of admitting to this or that official the importunate client, or the needy petitioner, or even the decently attired mendicant. So that the imminent changes in the accommodation of the Apostolic community will not only make for improved sanitation, for economy of time, and for acceleration of business, but will also conduce to the amenities of a quarter which has long been, and is destined long to continue, the most largely and multifariously frequented in Rome.

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[1] Carlo Darwin: uno Studio di Alberto Alberti. Modena: A. Formiggini. 1909. Pp. 78. Prezzo 1 fr.

June 13th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Hot Weather and the Schools.

IN Austria, where compulsory education is responsible for [illegible] children between six and 14 [illegible] daily, the intense heat in [illegible] often caused much discom[illegible] had to be in school from 2 to 4 P.M. Several times the school boards have attempted to introduce a system of continuous attendance for five hours from 8 A.M. to 1 P.M., thereby saving the children and the teachers the necessity of coming twice a day to school. The Ministry of Education has, however, this year tried to make the children come twice a day to school, in spite of the "Hitzeferien" (hot-weather holidays), as these idle [illegible] termed. Parents naturally made [illegible] and conflicts resulted. Finally [illegible] the school attendance to four hours before noon and leaving out the afternoon lessons was agreed to if the temperature at 10 A.M. reaches 20° C. (77° F.). At the same time it has been decided to bring the next school term to an end on July 1st and to have the holidays in July and August, which are the hottest months with us, and not as at present from the middle of July to the middle of September. The changes are due to the reports of several school medical officers, who as yet are too few in number to compel attention, but whose reports are already much appreciated.

The Jubilee Fund "for the Children."

At the recent jubilee of the Emperor a fund was collected bearing the title "Für das Kind" (for the children), as the Emperor wished that the money intended to be laid out on the jubilee celebrations should be devoted to charitable purposes, notably for the benefit of children. The fund has now been handed over to the organisation committee, which consists of 56 members, mostly presidents of various charitable institutions, medical men, and five ladies. The objects of the fund are: (1) to found model institutions for the protection of children; (2) to make grants in aid of already existing institutions of this kind; and (3) to arouse among the general population an interest in measures intended for the protection of children. All endeavours to promote the mental and bodily development of the juvenile portion of the population come within the scope of the fund, which it is inte[illegible]
so t[illegible]
for[illegible]
mir[illegible]
Fur[illegible]
do[illegible]

Professional Secrecy and Sources of Public Danger.

In a case heard recently in a court of law the familiar question of professional secrecy and the duty of the medical practitioner towards the public and the patient were well illustrated, and much comment in medical circles has been caused by the legal decision. A medical man who was treating a female patie[illegible] warned her that she m[illegible] owing to her position [illegible] neglected his cautions and when he saw another case of extra-genital syphilis, which could be traced to her, he informed the postmaster-general, without being asked by anybody to do so. The patient having consequently lost her appointment and suffered some other inconveniences, claimed damages from the medical man who had, without her consent, disclosed the nature of her disease to a third party. The judge decided that the medical man "had been acting in the public interest, and therefore in defence of the public, conduct which could not be considered a breach of professional secrecy." The defendant was acquitted by the jury. Now there are under consideration certain new medical regulations which stipulate that a medical practitioner must disclose the nature of a patient's illness to a legal authority *if he is asked.* In a similar case a well-known dermatologist recently found that by wilful neglec[illegible] infected his two children, [illegible] tively, and allowed them [illegible] school where they might be a source of infection to others. [illegible] made them wear large patches [illegible] when the school board asked [illegible] answered that the children were suffering from an infectious disease. The consequence was that they were excluded from school until he had given them a certificate of freedom from infection. Of course, there is often a conflict between the duty of the medical man towards the patient and his duties as a citizen. Hitherto it has been an invariable rule with the profession here to consider only the duty of the medical man towards the patient and the law itself was very strict on this point. The development of social life tends, however, to lessen the sense of personal attachment of the physician to his patients in preference to his public duty, though the majority of the profession here show on this point a decidedly conservative tendency.

The Scandal at a Lunatic Asylum.

In a previous letter I mentioned the sad occurrence in one of our lunatic asylums where a patient who had become unmanageable was actually killed by an attendant in the course of "quieting" him. The jury returned a verdict of manslaughter and the attendant, by a series of fortunate circumstances, was sent to prison for only six months. But in the course of the action it became manifest that the real culprit was to be sought for elsewhere. The system was responsible, and public indignation has been only partly allayed by the announcement that the old regulations have been replaced by new ones more in accordance with modern ideas. The false economy of placing only 19 medical men in charge of 3000 insane persons being thus exposed, it is only natural that the number of psychiatric experts in the asylums will be amply increased, and sufficient funds must be found to obtain a better class of attendant than the boards of management has hitherto been satisfied with.

June 14th.

THE CONJOINT DIPLOMA IN PUBLIC HEALTH.—We are requested to state that on and after Jan. 1st next a new syllabus will be adopted for Parts I. and II. of the examination for the Diploma in Public Health of the Royal Colleges of Physicians and Surgeons, and that such syllabus can be obtained on application to the Secretary at the Examination Hall, Victoria Embankment.

Obituary.

DR. CARLO LABUS.

BEARING an honoured name in medicine and in law—son of Dr. Pietro Labus, Director-in-chief of Military Hospitals, and brother of Dr. Stefano Labus, distinguished as a jurisconsult at the Bar and in literature—Dr. Carlo Labus succumbed on June 1st, at his native Milan, to an attack of appendicitis of only five days' duration.

He was born in 1844 and pursued his medical studies at Pavia, where he graduated in 1865. In the following year he served in his country's ranks in the campaign against Austria, filling with much ability and courage the post of army surgeon, and during the cholera epidemic which declared itself after the cessation of hostilities he did valuable service at two such distant centres as Catania and Brescia. Abandoning the medico-military career, he devoted himself exclusively to diseases of the throat, and, in prosecution of his studies, he attended many Continental cliniques—particularly in Austria, Germany, and France—in the pharyngo-laryngeal department. In 1876, by which time he had made himself a name as specialist and consultant in that group of diseases, he initiated at the Medical Congress then held at Turin a "pharyngo-laryngeal section"—the first, it is said, not only in Italy but even in other countries to be instituted at such congresses under that name. In that year he also founded in the Ospedale Maggiore of Milan, the well-appointed "Clinica Laringoiatrico." In 1878 he gave at Pavia the first course of clinical lectures ever held in that seat of learning on laryngology—an initiative which found immediate imitation in other Italian schools, and in 1880 he was president at the first International Congress on Pharyngo-laryngeal Maladies. His distinction in this field brought him many honours in Italy and abroad in the form of "associate" or "corresponding member" of numerous medico-chirurgical societies. Indefatigable in the clinique and in the consulting-room, he found time to contribute a vast number of papers to medical journals on his special subject, papers much esteemed for their independent thinking and expository power. He also invented not a few instruments for surgical intervention in special cases of laryngeal trouble, and some of these are in daily use, particularly in Italy, where also the "Fantoccio Labus," which gained the prize at the Medical Exhibition of Pisa in 1878, still holds the field. Death overtook him while engaged on the concluding chapter of what he meant to be his *magnum opus*, a treatise on "Vocal Hygiene," the publication of which is awaited with much interest by the profession in the ensuing autumn. This, and a selection from his contributions on laryngology to the "Rivista di Medicina," the "Giornale Internazionale delle Scienze Mediche," the "Archives of Laryngology," the "Annales des Maladies de l'Oreille et du Larynx," the "Revue de Laryngologie," the "Archivii Italiani di Laringologia," and the "Gazzetta degli Ospedali," of which last he was one of the founders, will testify to the professional world how much it has lost by the untimely death of the Milanese specialist and consultant, Carlo Labus.

THEOBALD M. BRYSON, L.F.P.S. GLASG., L.R.C.P. EDIN.

AFTER a prolonged illness, Mr. T. M. Bryson died on May 25th at his residence in Limavady, at the age of 65 years. Educated in Glasgow at the University and at Anderson's College, Mr. Bryson became a Licentiate of the Faculty of Physicians and Surgeons of Glasgow in 1868, and of the Royal College of Physicians of Edinburgh in 1874. He began practice in Limavady, county Derry, in 1870. A man of fine physique, genial and social in his habits, and with a sound knowledge of his profession, Mr. Bryson built up a lucrative and extensive practice in Limavady and the surrounding district. He was a justice of the peace for county Derry, and he was also coroner for the district in which he practised. Mr. Bryson was a great favourite with all classes and creeds. He leaves a widow and a daughter who is the wife of Mr. M. Higgins, L.R.C.P. & S. Edin., of Dungiven.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Pribuitkoff, *privat-docent* of neurology in the University of Moscow.—Dr. J. R. Costa, professor of physiology and of medical physics in the University of Buenos Ayres.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the Final Examination for the Fellowship held on May 14th, 17th, 18th, 19th, 20th, and 21st 73 candidates presented themselves, of whom 37 were approved and 36 were rejected. Among the successful candidates were three gentlemen (Davis Woodcock Daniels, M.B. Lond., L.R.C.P., M.R.C.S., of St. Mary's Hospital; Charles Henry Shorney Webb, M.B. Lond., L.R.C.P., M.R.C.S., of Middlesex Hospital; and Albert Edward Mortimer Woolf, L.R.C.P., M.R.C.S., Cambridge University and London Hospital) who have not yet attained the requisite age of 25 years. The Council accordingly conferred Diplomas of Fellow upon the 34 gentlemen mentioned below, who have complied with the necessary by-laws:—

Charles Henry James, Major I.M.S., L.R.C.P., M.R.C.S., St. Thomas's Hospital; Carlton Oldfield, M.D., B.S. Lond., L.R.C.P., M.R.C.S., Leeds University; Percy Montague Smith, M.D. Lond., L.R.C.P., M.R.C.S., L.S.A., St. Mary's Hospital; Edmund Arthur Dorrell, L.R.C.P., M.R.C.S., D.P.H. Lond., University College, Bristol, and St. Bartholomew's Hospital; Archibald Hugh Payan Dawnay, L.R.C.P., M.R.C.S., St. Thomas's Hospital; Walter Rothney Battye, Captain I.M.S., M.S., M.B., B.Sc. Lond., L.R.C.P., M.R.C.S., St. Thomas's and St. Bartholomew's Hospitals; Thomas Wi[illegible] Letchworth, M.B., B.C., B.A. Cantab., L.R.C.P., M.R.C.S., [illegible] St. Bartholomew's Hospital; William I[illegible] M.R.C.S., London Hospital; Aaron Levy, B.A., M.D., C.M. McGill, L.R.C.P., M.R.C.S., McGill University, Montreal, and St. Bartholomew's Hospital; John Jekyll Rainforth, M.B. Lond., *L.R.C.P., M.R.C.S., London* Hospital; Herbert Francis Woolfenden, M.D. Liverp., L.R.C.P., M.R.C.S., Liverpool University and London Hospital; Clifford Sidney White, M.D., B.S. Lond., M.R.C.P., M.R.C.S., University College Hospital; Rc[illegible] M.B., B.C. Cantab., L.R.C.P., M.R.C.S., [illegible]d London Hospital; Frank Anderson J[illegible] Cantab., L.R.C.P., M.R.C.S., St. Mary's Hospital; Thomas Charles Clare, M.B., B.S. Lond., L.R.C.P., M.R.C.S., Birmingham University; John Davis Barris, B.A. Cantab., L.R.C.P., M.R.C.S., Cambridge University and St. Bartholomew's Hospital; Thomas Bramley Layton, M.B., M.S. Lond., L.R.C.P., M.R.C.S., [illegible] James Eustace Radclyffe McDonagh, L.R.C.P., [illegible]'s Hospital; Sydney Gray Macdonald, [illegible], L.R.C.P., M.R.C.S., St. Thomas Hospital; Hamilton Ernest Quick, M.B., B.S., B.Sc. Lond., L.R.C.P., M.R.C.S., [illegible] St. Bartholomew's Hospital; Rupert Farrant, L.R.C.P., M.[illegible]pital; Alexander Fleming, M.B., B.S. L[illegible] St. Mary's Hospital; James Leonard Joyce, L.R.C.P., M.R.C.S., Cambridge University and St. Bartholomew's *Hospital*; Christian Frederic Louis Leipoldt, L.R.C.P., M.R.C.S., Guy's Hospital; William Fulton Neil, M.B., Ch.B. New Zealand, L.R.C.P., M.R.C.S., New Zealand University and London *Hospital*; Cecil Frederic[illegible] M.B., B.S. London, L.R.C.P., M.R.C.S., Middlesex [illegible]neth Martin, M.B., B.S. Lond., L.R.C.P., [illegible] College Hospital, Robert Ollerenshaw, [illegible] L.R.C.P., M.R.C.S., Manchester University and London Hospital; Hugh Raymond Guy Poate, M.B., Ch.M. Syd., L.R.C.P., M.R.C.S., Sydney University and London Hospital; Frederick Charles Pybus, M.B., B.S. Durh., L.R.C.P., M.R.C.S., Durham University and St. Bartholomew's Hospital; Vincent Zachary Cope, M.D., B.S. Lond., St. Mary's Hospital; Arthur Cecil Devereux, M.B., B.C. Edin., Edinburgh University and Middlesex Hospital; William Maxwell Munby, M.B., Ch.B. Edin., Edinburgh University and London Hospital, and Laurence Christopher Panting, M.A., M.D., B.Ch. Oxon., Oxford University and Guy's Hospital.

The Diploma of Member was also conferred by the Council upon the following gentleman, who has now complied with the by-laws:—

William John Smith, M.B. Toronto, Toronto University and London Hospital.

Licences in Dental Surgery were conferred upon the following gentlemen who have complied with the necessary by-laws:—

Victor Charles Burt, Charing Cross and Royal Dental Hospitals; Abraham Cohen, Guy's Hospital; Richard Highton, *Liverpool* University; and George Garfield Packe, M.B. Cantab., L.R.C.P., M.R.C.S., St. George's and Royal Dental Hospitals.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Hermann Steudel, who has charge of the Chemical Department of the Physiological Institute, has been appointed Extraordinary Professor of Physiology and Chemistry. Dr. Köllner and Dr. Leber, assistants in the First Ophthalmological Clinic, have been recognised as *privat-docenten* of Ophthalmology. Dr. Doenitz, Assistant in the Surgical Clinic in the Ziegelstrasse, has been recognised as *privat-docent* of Surgery. Dr. Richard Freund, of

Halle, has been recog[illegible] and Dr. Tomasczew[illegible] *Greifswald:* Dr. Lochlein, Assistant in the University Clinic, has been recognised as *privat-docent* of Ophthalmology.—*Vienna:* Dr. Robert BáránBárányi has been recognised as *privat-docent* of Otology.

A CONFERENCE on the Medical Inspection and Treatment of School Children will be held at the Institute of Hygiene on June 21st, when Sir William H. Bennett will preside over a gathering of medical men who have arranged to discuss this important subject.

RESEARCH DEFENCE SOCIETY.—The annual general meeting of this society will be held at the house of the Royal Society of Medicine, 20, Hanover-square, W., on Friday, June 25th, at 5 o'clock. The Earl of Cromer, President of the society, will take the chair. Other speakers will be Sir James Dewar, Sir Arthur Conan Doyle, the Hon. Walter Guinness, and Professor E. H. Starling.

PRESENTATION TO A MEDICAL PRACTITIONER.—After the distribution of medals and certificates to the Helston (Cornwall) branch of the St. John Ambulance Association, which took place recently, the mayor, on behalf of the class, presented Mr. Mark Ronald Taylor, L.R.C.P. Lond., M.R.C.S. Eng., with a silver-mounted ebony walking-stick, which was suitably engraved, in appreciation of his services as honorary lecturer.

THE LONDON COUNTY COUNCIL AND THE MEDICAL TREATMENT OF LONDON [illegible] Committee reported at [illegible] Council on June 15th the [illegible] Sick Children, Great Orr[illegible] treatment for 25 school children per week for a period not exceeding six months, provided that the cases attending on any one day shall be selected so as to avoid placing undue pressure on any one department of the hospital. It is suggested that the cases should be divided between the ophthalmic and aural departments. The Education Committee proposed that children from eight neighbouring schools should be selected to take advantage of the offer, as they thought that an experiment on this limited scale should prove valuable as a guide when the Council deals with the general question of medical treatment. The offer was accepted by the Council.

ROYAL DENTAL HOSPITAL AND LONDON SCHOOL OF DENTAL SURGERY.—A series of post-graduate lectures (as follows) will be given during the months of October and November, 1909, on Tuesdays, at 6 P.M.:—Oct. 12th, "Some Pathogenic Organisms found in the Mouth and their Channels of Infection," Mr. Howard Mummery; 19th and 26th, "Periodontal Disease," Mr. J. F. Colyer; Nov. 2nd, "Stagnation and Drainage," Mr J. G. Turner; 9th, "The Vaccine Treatment in Dental Surgery," Dr. F. A. Bainbridge; 16th, "Dental Radiographs," Mr. Charles A. Clark; 23rd, "Complications arising from Pathological Conditions of the Third Molar," Mr. Warwick James. The fee for the course is £2 2*s*., but past and present students of the hospital and internal students of the University of London will be admitted free.

GUY'S HOSPITAL MEDICAL SCHOOL.—As will be seen by an advertisement in another column applications are invited for a Douglas Research Studentship in Actino-therapeutics. The honorarium of the studentship is £300 per annum, paid quarterly in advance. The following are the main conditions under which the studentship is awarded. The student must possess a registrable qualification to practise under the Medical Acts and will be appointed by the treasurer on the nomination of a special board of electors. The appointment is held during the pleasure of the treasurer for one year. The student must not hold any office or [illegible] or profession [illegible] vent him from [illegible] research. If [illegible] not fulfilling the purposes of the studentship the treasurer will have power to determine that the tenure of the emoluments of the studentship by the student shall cease. The student will [illegible] account [illegible] the [illegible] ater [illegible] three recent testimonials. The successful applicant will commence his work on July 15th, 1909. Further information may be obtained by application to the Dean, Medical School Office, Guy's Hospital, S.E.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.—The Fishmongers' Company have awarded a University Exhibition of £60 per annum for three years to Miss Naomi Tribe, a student of the school. The council have appointed Miss Kate Brown, M.B., B.S., to be demonstrator in anatomy and Curator of the Museum.

SMOKE ABATEMENT.—The London County Council on June 15th decided, by 98 votes to 2, to promote legislation next year to deal more effectively with the smoke nuisance. The report of the Public Control Committee giving the reasons for this step was dealt with in THE LANCET of May 15th. It is desired to delete from the Public Health (London) Act, 1891, the qualifying word "black" as applied to smoke which may be regarded as causing a nuisance, and to extend the operations of the measure to infringements arising from premises of Government departments, local authorities, and companies having statutory powers. Authority will also be sought to spend not more than £500 per annum in the advancement of measures for the abatement of smoke nuisance, more especially that caused by the domestic open fire.

AMBULANCE COMPETITION.—The competition for the Hamilton Challenge Bowl took place on June 14th at the headquarters of the 5th London Rifles, Bunhill-row, City, and was won by a squad of six men under Lance-Corporal A. Gray, drawn from the 1st City of London Field Ambulance, R.A.M.C.T.F. The subjects included first-aid and stretcher drill, and the competition was open to all the medical units of the 1st and 2nd London Divisions Territorial Force and to all regimental [illegible] were Surge[illegible] Company, [illegible] The challenge bowl was presented by the late Surgeon General J. B. Hamilton, A.M.S., and has been keenly competed for by non-commissioned officers and men of the Volunteer Force for many years. Colonel P. B. Giles, A.M.O., 1st London Division, in announcing the result, stated that the challenge bowl would be held for 12 months by the officer commanding the 1st City of London Field Ambulance and that the conditions of the competition would be changed from time to time.

KING'S COLLEGE HOSPITAL CARNIVAL.—One of the chief features of the carnival which is to be held at the Crystal Palace on July 1st in aid of the King's College Hospital Removal Fund will be the Gipsy Encampment, which is being organised by Mrs. W. S. Playfair. Among those who have promised to lend their aid to this presentation of Romany life are Mr. Jacomb Hood (the artist), Mr. Pett Ridge (the novelist), Lady Florence Pery, Mr. and Mrs. George Alexander and the students of *Old Heidelberg*, Miss Lilian Braithwaite, the Misses Dickens (grand-daughters of the novelist), and Mr. Nigel Playfair. A free flower show is also being organised by Miss Stacey, and two artists and the King's gardener will be the judges. Prizes of silver medals and a silver cup will be awarded in the table decorations competition. Signor Luigi Benedetto and his Italian troop, M. Belenski's Viennese Band, and the Ladies' Forget-me-not Band will also take part in the carnival. We understand that the Gipsy Encampment will be made as realistic as possible and that the artists taking part in it will be specially instructed by gipsies.

THE BOWMAN LECTURE OF THE OPHTHALMOLOGICAL SOCIETY.—[illegible] the Bowman lecture [illegible] Heredity. The sub[illegible] the theories involved and the number of diseases considered, [illegible] ance of hereditary tendencies in successive generations, in first matings, cousin marriages, and the several forms of sex-limited disease, the speaker showed the tendency to anticipate as regards age of incidence in successive generations, both in such general disorders as pulmonary tuberculosis, diabetes, hereditary ataxy, and jaundice with enlarged spleen, and the many diseases of the eye with which he was more directly concerned. These included such widely different conditions as Leber's disease (hereditary optic atrophy), cataract (senile, juvenile, lamellar, and coraliform), glaucoma, retinitis pigmentosa, reticular keratitis, albinism, night blindness, day blindness (total colour blindness), partial colour blindness, and nystagmus. These were considered from the point of view of prognosis as to probable appearance and possibility of recovery, the occurrence of associated disease and early death, and the influence of consanguinity. A notable feature in the general purview was a striking correspondence between the actual figures worked out from collected cases of these several diseases and the theoretical numbers resulting from the application of Mendel's views. The material dealt with was much too extensive for the usual limits of a lecture, even the portions selected occupying an hour and a quarter in delivery. The subject, however, is alive with interest, and the full account of this valuable contribution will appear in the Transactions of the Ophthalmological Society.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Superannuation of Asylum Officers.

THE Select Committee of the House of Commons which has been taking evidence on the superannuation of asylum officers in connexion with Sir WILLIAM COLLINS's Bill on the subject is now in a position to consider the terms of its report. The inquiry has extended over two months and witnesses have been heard from England, Scotland, and Ireland.

The Housing and Town Planning Bill.

The Housing and Town Planning Bill is to be passed through the House of Commons under a closure resolution. The Government has carried a motion allocating three days to the subsequent stages of the Bill. It has already received a second reading. It will be remembered that the Bill was considered at length by a Standing Committee of the House of Commons last year, but it was not further proceeded with then.

The Spirit Duties.

Mr. LLOYD GEORGE has been receiving a series of deputations with regard to the increase of 3s. 9d. per gallon in the spirit duties. The Chancellor of the Exchequer has not committed himself to any modification of this impost, but he has thrown out a suggestion to the Scotch whisky distillers, which if it is ultimately adopted will give an impetus to the maturing of the spirit in bond. Mr. LLOYD GEORGE has asked the distillers to submit to him a plan for levying a graduated scale of duty, which would fall heavily on raw spirits passing into consumption soon after manufacture, but more lightly on those which had been matured for some years. This plan does not meet with the approval of some distillers, but others are favourable to it. They are considering the question and will probably have another meeting with the Chancellor of the Exchequer when they have formed more detailed views on the subject.

HOUSE OF COMMONS.

THURSDAY, JUNE 10TH.

Enteric Germ-carriers Amongst Soldiers.

Captain CLIVE asked the Secretary of State for War whether with reference to the seven non-commissioned officers and men detained at Millbank Hospital as enteric germ-carriers he would state under what section of the Army Act these men were indefinitely deprived of their liberty.—Mr. HALDANE wrote in reply: I have fully explained to the honourable and gallant Member the circumstances under which these men are undergoing special treatment at Millbank Hospital. Papers on the subject will shortly be in the hands of honourable Members. A sick soldier can be ordered to be confined in hospital, and disobedience to such lawful command would be punishable under the Army Act on conviction by court-martial.

C[illegible] BARING also asked the [illegible] gentleman [illegible] officers [illegible] as germ- [illegible] for [illegible] and not [illegible] ary duty or for employ[illegible] t in civil life; and wh[illegible], [illegible] mstances, he would remit the hospital stoppages to which these men were subject.—Mr. HALDANE furnished the following reply: As I have already informed the House, these cases were considered dangerous to their comrades in the barracks and they are, therefore, detained in the interests of all with whom they might otherwise come in contact in civil or military life. In accordance with the regulations in cases of sickness these men have had half their hospital stoppages remitted.

Bulford Camp Hospital.

Mr. JOYNSON-HICKS asked the Secretary of State for War how many men had been sent to Bulford Camp Hospital during the present period of training, how many had been dealt with in brigade and regimental hospital tents, and what proportion of such cases were traceable to preventable causes, such as inadequate supply of tent boards and clothing.—Mr. HALDANE answered: A report has been called for, but the information has not yet reached the War Office.

The Pharmacy Act, 1908.

Mr. SNOWDEN asked the Secretary of State for the Home Department whether he was aware that many licences were being granted under the Pharmacy Act, 1908, to persons other than qualified chemists to sell poisonous substances for agricultural purposes, and that these licences were being granted in large industrial towns where existing facilities were ample; and whether, in view of the definite statement made by the Under Secretary of State on the second reading of the Pharmacy Bill that it was not intended to license traders where the facilities of supply by chemists were ample, he would take steps to prevent the wide and indiscriminate granting of licences to non qualified traders.—Mr. GLADSTONE replied: The Privy Council Office, which is the department [illegible] administering the Act, informs me that there is no [illegible] have disregarded its provisions and [illegible] it is possible that instances of such disregard may [illegible] some localities. The Act charges the local authority with the duty of considering whether the reasonable requirements of the public are satisfied, and these requirements may not in some cases be met by the facilities given by chemists. If the honourable Member knows any cases in which a grievance exists I will be glad if he will bring them to my notice.

Mr. HAYDEN asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that in considering applications for licences under the Poisons and Pharmacy Act, 1903, and to assist them in their decisions the county councils of Ireland found it necessary to make inquiries as to whether the applicants fulfilled the conditions laid down in the regulations promulgated by the Lord Lieutenant under the Act and as to the circumstances and needs of the locality; whether they can rely upon the assistance and coöperation of the Royal Irish Constabulary in acquiring this necessary information; and, if not, whether he would state what other machinery was at the disposal of the county councils for securing such information.—Mr. BIRRELL replied: The duty of granting licences is by the Act thrown on the local authorities and any inquiries necessary to enable them to deal with applications should be made by their own officers. The police cannot be asked to undertake the duties of the local authorities in the matter, but no doubt, if asked, they will furnish any information within their knowledge as to any particular applicant which the local authorities cannot otherwise obtain.

Death Certification.

Sir WALTER FOSTER asked the President of the Local Government Board whether his attention had been called to the case of Mary Jane Walker at Wolverhampton, who narrowly escaped premature burial owing to a medical man having given a certificate of her death without having viewed the body; and whether he would take steps so to amend the law with regard to the certification of death as to render such dangers impossible in the future.—Mr. BURNS wrote in reply: I have seen a newspaper report of the proceedings at the inquest in this case. I am afraid I could not undertake to propose legislation on the subject of death certification during the present session.

New-born Calves as Food.

Mr. CATHCART WASON asked the President of the Local Government Board whether he could state the number of newly born male calves that were butchered annually in the United Kingdom and Ireland; whether he had any information showing that these new-born calves were suitable as wholesome food; and if not, whether he had any power to prevent such so-called meat being sold or offered for sale.—Mr. BURNS (by written answer) replied: I am not able to give the figures asked for in the first part of the question, and I am not aware that the information exists. The carcass of a newly-born calf would usually be regarded as unfit for food and would be liable to be dealt with by meat inspectors accordingly. If it was necessary to prevent danger arising to public health from the importation or preparation of these calves when intended for sale for human consumption regulations could be made on the subject under the Public Health (Regulations as to Food) Act, 1907; but I have no evidence at present to show that this is the case.

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Mr. COOPER asked the [illegible] ocal Government Board whether he could now state the result of [illegible] inquiry into the action of the officials of the Reading workhouse in the case of Mrs. Emily Chapman, and what he intended to do in the matter.—Mr. BURNS furnished the following written reply: I have obtained a copy of the depositions taken at the inquest in this case and have made inquiry into the matter. It is the fact that Mrs. Chapman was admitted into the workhouse in the evening of May 20th, and was not seen by the medical officer until nine o'clock the next morning. Mrs. Chapman appears to have been seen by the police surgeon before her removal to the workhouse, and the workhouse officers did not think it necessary on her admission to send for the medical officer. She seems to have received care and attention from them, and the medical officer stated at the inquest that he could have done no good had he been sent for on the evening of the 20th. I consider, however, that whenever a case of serious illness is admitted to the workhouse the medical officer should at once be informed by the master. I have communicated this opinion to the guardians and the master has promised to act accordingly in future.

MONDAY, JUNE 14TH.

The Bulford Camp Hospital.

Mr. JOYNSON-HICKS asked the Secretary of State for War how many men had been sent to Bulford Camp hospital during the present period of training, how many had been dealt with in brigade and regimental hospital tents, and what proportion of such cases were traceable to preventable causes such as inadequate supply of tent boards and clothing.—Mr. HALDANE replied: The general officer commanding-in-chief reports that 131 cases have been admitted during the present training period to Bulford military hospital, 261 to brigade and regimental hospital tents, and 39 to the military hospital at Tidworth. As regards the cases in the East Lancashire division 40 have been dealt with in hospital tents. None of these cases are reported to be traceable to preventable causes such as inadequate supply of tent boards and clothing.

The Housing of Miners in Scotland.

Mr. BEALE asked the Lord Advocate whether the Secretary for

The Spirit Duty and Anæsthetics.

Mr. FELL asked the Chancellor of the Exchequer what was the prin-

spirit duty.

Mr. FELL also asked the right honourable gentleman what was the

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Home Office Administration.

infant mortality caused by the employment of mothers was now the subject of a Government inquiry. A great deal of information was now being collected with regard to it and a good deal of progress had been made. Even now infant mortality had not been reduced in anything like the proportion of reduction of mortality

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children of tender age from employment on the more dangerous operations.

Mr. AKERS DOUGLAS regretted that the honourable Member for Peterborough had brought into the discussion the question of the administration of the Home Office in respect to the Acts regulating cruelty to animals, especially when a Royal Commission was inquiring into the

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TUESDAY, JUNE 15TH.

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WEDNESDAY, JUNE 16TH.

The Vaccination of Post office Servants.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BELL, J., M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. Lond., has been appointed Principal Civil Medical Officer, Hong Kong, during absence on leave of Dr. J. M. Atkinson.

BREMRIDGE, RICHARD H., B.Sc., M.B., B.Ch. Oxon., L.R.C.P. Lond., M.R.C.S., has been appointed Chief Medical Inspector of Schools for the County of Wilts.

EVANS, DAVID ROBERT POWELL, M.R.C.S., L.R.C.P. Lond., L.S.A., has been appointed Medical Officer to the North Wimbledon Cottage Hospital.

HEPBURN, MALCOLM L., M.D., B.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Central London Ophthalmic Hospital.

ISAAC, CHARLES LEONARD, M.B., M.R.C.S., has been appointed a Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 30.

JEFFREYS, W. M., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at University College Hospital.

MARTIN, BASIL W., M.B., B.Ch. Aberd., has been appointed Medical Officer to the Reading Dispensary.

PEARSON, J. SIDNEY, M.D. Cantab., has been appointed Pathologist and Registrar to the East London Hospital for Children, Shadwell.

SHERREN, JAMES, F.R.C.S. Eng., has been appointed an Examiner in Anatomy for the Primary Fellowship.

SWEETING, R. DEANE, M.D. Dub., D.P.H. Dub., has been appointed Examiner for the Conjoint Diploma in Public Health of the Royal [illegible] of England.

THO[illegible] .P. Lond., M.R.C.S., has been [illegible] No. 6 District of the Bodmin [illegible]

VOSPER, S., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the British Lying-in Hospital.

WILLIAMS, RICHARD THOMAS, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed a Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 30.

WOODWARK, A. STANLEY, M.B., B.S. Lond., M.R.C.P., has been appointed Physician to the Casualty Department of St. Bartholomew's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BETHLEM HOSPITAL.—Resident House Physician, unmarried, for six months. Salary £25 per quarter, with apartments, board, and washing.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £170 per annum and rooms, fire, lights, and attendance.

BRECON AND RADNOR ASYLUM, Talgarth, Breconshire.—Assistant Medical Officer. Salary £170 per annum, with board, apartments, attendance, and laundry.

BRIGHTON AND HOVE HOSPITAL FOR WOMEN AND LYING-IN INSTITUTION.—Honorary Surgeon-in-Ordinary.

CAIRO, EGYPT, SCHOOL OF MEDICINE.—Professor of Anatomy. Salary £800 per annum, with pension rights.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £140 per annum, with board, lodging, washing, and attendance.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board and lodging.

CHELTENHAM GENERAL HOSPITAL.—Surgeon-in-Charge of the Branch Dispensary. Salary £80 per annum, with board and lodging.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Junior House Surgeon. Salary £60 per annum, with board, apartments, and laundry.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £75 per annum, with board, washing, and residence.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and laundry. Also Medical Officer and Second Medical Officer to the Casualty Department, both for six months. Salaries at rate of £100 and £40 per annum respectively with luncheon and tea.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, S.E.—House Physician for seven months. Salary at rate of £60 per annum, with board, residence, and washing. Also Clinical Assistants in the Out-patient Departments.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

GLOUCESTERSHIRE EDUCATION COMMITTEE.—School Medical Inspector. Salary £250 per annum, with travelling expenses.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Also Assistant House Surgeon. Salaries £100 and £50 per annum respectively, with board, residence, and laundry.

GUY'S HOSPITAL MEDICAL SCHOOL.—Douglas Research Studentship. Value £300.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, unmarried, for six months. Salary £30, with board and residence. Also Locum Tenens Bacteriologist and Pathologist. Salary £3 3s. per week.

HULL, ROYAL INFIRMARY.—Honorary Ophthalmic Surgeon.

INDIAN MEDICAL SERVICE, India Office, London.—Twenty-one Commissions.

LEEDS GENERAL INFIRMARY.—Honorary Assistant Surgeon.

[illegible] CHILDREN.—Two Resident Medical Officers [illegible] in each case £30, with board and residence.

[illegible] Brownlow Hill.—Assistant Medical Officer. Salary £120 per annum, with apartments, rations, &c.

LONDON COUNTY COUNCIL.—Twenty-six Assistant School Doctors Salary £120 per annum.

MANCHESTER, UNIVERSITY OF.—Junior Demonstrator in Physiology. Salary £100 per annum.

MOUNT VERNON HOSPITAL FOR [illegible] CHEST, Hampstead and [illegible] Medical Officer at Hamp[illegible] and residence. Also Assi[illegible] wood. Salary £50 per an[illegible]

NEWPORT AND MONMOUTHSH[illegible] Officer. Salary £60 per a[illegible]

OLDHAM INFIRMARY.—Senior [illegible] with residence, bo[illegible]

QUEEN CHARLOTTE'S [illegible] Resident Medical [illegible] annum, with board, residence, and washing.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Junior Obstetr Assistant (female) for six months.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-stree West Strand, W.C.—Assistant Surgeon.

ST. GEORGE'S HOSPITAL, S.W.—Assistant Ophthalmic Surgeon.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN.—Honorary Assistan [illegible]

ST. [illegible] Welbeck-street, Cavendis [illegible]

SEA[illegible] Salary £100 per annum with board.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medica Officer, unmarried. Salary £100 per annum, with apartment rations, &c.

[illegible] SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—[illegible] six months. Salary at rate of £100 per annum [illegible]

SWITZERLAND, QUEEN [illegible] iden Medical Superinte[illegible] wit board and residence.

UNIVERSITY COLLEGE HOSPITAL, Gower-street, W.C.—Assistan Surgeon.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Hous Physician for six months. Salary £30, with board, lodging, an laundry.

WALSALL AND DISTRICT HOSPITAL.—Junior House Surgeon. Salary £8 per annum, with board, residence, &c.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant Hous Surgeon, unmarried. Salary £75 per annum, with board, residence

[illegible] COLLEGE, Hammer [illegible] ce Casualty Officers. [illegible] —Resident Obstetr Assistant for six months. Board and lodging provided.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salar £100 per annum, with board and residence.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician unmarried. Salary £65 per annum, with board, residence, &c. Als Locum Tenens House Physician. Salary 4 guineas per week.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—Hous Surgeon. Salary £80 per annum, with apartments, board, an laundry.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Tw House Surgeons. Salary £80 per annum, with board, lodging, and laundry.

THE Chief Inspector of Factories, Home Office, S.W., gives notice o vacancies as Certifying Surgeons under the Factory and Worksho Act at Fakenham, in the county of Norfolk; and at Bishopstoke, i the county of Hants.

THE Secretary of State for the Home Department gives notice of a vacancy for a Medical Referee under [illegible] Act, 1906, for County Court Circuit [illegible] particularly to Sunderland and Seahar[illegible]

Births, Marriages, and Deaths.

BIRTHS.

BARWELL.—On June 14th, at Mildenhall, Suffolk, the wife of Francis R. Barwell, M.R.C.S., L.R.C.P., of a son.

GORDON-GREEN.—On June 13th, at St. David's, 52, Whitwell-road, Southsea, Hants, the wife of Fleet-Surgeon H. W. Gordon-Green, R.N., M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

JEWESBURY.—On June 10th, at Stoughton, Guildford, the wife of R. C Jewesbury, M.B. Oxon., M.R.C.P. Lond., of a son.

MARRIAGES.

ADDISON—BROWN.—On June 18th, a[illegible] Church, York Gate, Regent's Park, by th[illegible] Oswal [illegible] Lacy Addison, F.R.C.S., of 55A, [illegible] of Joseph Addison, of 20, Harley House, Regent's Park, and Bond Court, Walbrook, E.C., and Kate (Cissie) Brown, M.B., B.S. Lond., daughter of Harold Brown, of 9, Chester-terrace, Regent's Park, and Bond Court, Walbrook, E.C.

MACNAB—HEWLETT.—On June 12th, at St. Paul's Church, Beckenham, by the Rev. Canon Hammond, John Theodore Macnab, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., of Cambridge House, Balham son of the late Robert W. Macnab, Esq., of [illegible] Violet, fourth daughter of John C. Hewlett, [illegible] House, Beckenham, Kent, and Charlotte [illegible]

[illegible] June 15th, at St. Peter's, Cranley-gardens, South Kensington, Cyril Clarke Boville Morris, A.M.I.Mech.E., Assistant Divisional Officer of the London Fire Brigade, eldest son of Clarke Morris, M.R.C.S., J.P., Blackheath, to Anita, only daughter of Mrs. O'Flanagan, 39, Drayton-gardens, W.

DEATHS.

METCALFE.—On June 11th, at Beccles, Suffolk, Robert Ives Metcalfe, M.D., in his 75th year.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

DENTAL CARIES AND FLOUR.

Mr. T. G. Read, D.M.D. Harvard, has been writing to us and to the press generally, we believe, on the relation of bread to the increase of dental caries. Mr. Read's view is that the increase of dental caries is to be attributed to the alteration of the method of preparing flour. The increase of caries is a question of international interest, and one naturally welcomes any facts which have a bearing upon the solution of the problem. The idea put forward by Mr. Read about roller-milled flour is not altogether new, and it is quite possible that the method of milling of the present day by means of rollers does alter the constitution of bread and make it more rapidly fermentable. Mr. Read's experiments on the amount of acidity produced by bread made with roller-milled and stone-milled flour have a certain interest. They are as follows:—

> He says: "In 1900 I investigated the matter of bread and dental caries, and discovered that there is an increase of about 40 per cent. during mastication in the acidity of bread produced from *roller flour, whereas there is no such increase when the bread is* composed of stone milled flour. These results were confirmed in 1901 by analytical chemists of experience.
>
> Further, I placed in an incubator, at the temperature of the mouth, sound teeth embedded in chewed bread made from roller flour and stone-milled flour. Now, the teeth embedded in the bread made from old-fashioned stone milled flour decayed but
>
> did not eat bread made from roller flour automatically the increase in dental caries would cease."

The experiment recorded by him in his letter is suggestive, and it is to be hoped that he will carry his work forward and try if possible to eliminate all sources of error. If we could feel quite certain that teeth treated in the manner he suggests decay more rapidly with roller-milled than stone-milled flour an advance would certainly have been gained. We are not inclined to think that the increase of dental caries can be put down to this or that special class of foodstuff, and it is much more reasonable to think that the cause really lies in some condition affecting the whole of the carbohydrates that form part of the diet of to-day, and it has been suggested that the trouble in all probability lies in the fact that the carbohydrates of to-day are much more fermentable than they were in days gone by.

THE COURT PHYSICIANS OF EGYPT AND ROME.

The monumental work, the "Histoire des Lagides," by M. Bouché Leclercq, which by utilising the great discoveries of papyrus manuscripts for the first time provides a complete picture of Egyptian times under the Hellenic dominion, gives as a title of one of the *important court functionaries the King's Physician, or βασιλικὸς ἰατρὸς-αρχιατρος.*

This statement carries back the medical Archiatri from the Roman to the Greek epoch, thus reversing the previous pronouncement of classical scholars that the first official known as an "Archiater" was

M. Bouché Leclercq does not note from what document, or record, he has *quoted the title, but there is other evidence proving* the existence of an official royal physician under the successors of Alexander, known as an Archiatrus. The most decisive of these records is an inscription found in the Island of Delos, published by M. Salomon Reinach of Paris. This text refers to a certain Papias of Amisos as Archiatrus to Mithridates. Another record, also upon stone and found at Delos, mentions a medical man who is called Archiatrus of King Antiochus, and so dates from the second century B.C.

The title was first used under the Ptolemies in Egypt and not by the Seleucidæ in Syria because the old Pharaohs from the time of the

who was chief of the physicians of one of the Ptolemies, ἐπὶ τῶν ἰατρῶν, but who fulfilled other functions, one of them being that of the director of the museum. A papyrus at Turin mentions a certain Tatas whom it calls βασιλικὸς ἰατρός, who promul- so that he appears

Aristæus, an

the Hebrew

t), a translation undertaken by desire of Ptolemy Philadelphus in 270 B.C., mentions Ptolemy's Archiatrus, who may well have been connected with the library, because in arranging for the translation of the Hebrew Scriptures he was engaged in a literary congress of Hebrew and Greek scholars. At least one Egyptian papyrus and many newly discovered inscriptions refer to Archiatri of the Roman era.

A FALSE MEDICAL CERTIFICATE IN BERLIN.

A German medical man has been criminally prosecuted for giving a false certificate. *At the urgent request of his patient, a telephone* girl, whom he had attended in her confinement and who declared she would lose her situation if the true cause of her absence from duty were revealed, he at last took pity on her and foolishly consented to certify that she was suffering from influenza and that she would be unable to return to duty for at least eight days. In favour of the accused it was urged that the medical certificate was quite true as to the fact for which it was required—that is, that the girl was too ill to attend to her duty, but the court passed the lowest permissible sentences, viz., one month's imprisonment on the medical man and one day's imprisonment on the girl, but expressed its opinion that circumstances were hard on the practitioner and hinted that perhaps his punishment might be reduced as an act of grace.

A CRUSADE AGAINST FLIES.

To the Editor of The Lancet.

Sir,—Last summer we had quite a swarm of house flies in my house, and they appear to be coming again now. Can you suggest something which will destroy them? If so I should be extremely grateful.

I am, Sir, yours faithfully,
June 14th, 1909. H. K.

*** Our correspondent will find full instructions for using formalin (a solution of formaldehyde) for the destruction of flies in The Lancet of May 22nd, p. 1472, and May 29th, p. 1578, under the heading "A Crusade against Flies."—Ed. L.

OILY INJECTIONS OF BINIODIDE OF MERCURY.

At the present time preparations of biniodide of mercury dissolved in oil are being used widely in the treatment of syphilis. There are some proprietary articles on the market which are claimed to contain 1 per cent. of the mercuric salt, but quite recently it has been shown by Dr. Reid Hunt and Dr. Atherton Seidell in the *Journal of the American Medical Association* that one of these contains less than one part of mercuric iodide in 10,000, and that at ordinary temperatures liquid paraffin holds less than 0·03 per cent. of the salt in solution. In a recent number of the *Répertoire de Pharmacie* Dr. P. Lemaire has given processes for preparing oily solutions of mercuric iodide in various strengths up to 1·5 per cent. He takes advantage of the fact that whereas 100 cubic centimetres of olive oil dissolve and retain in solution only 0·45 gramme of the salt castor oil dissolves

preparing a stable

castor oil, 50 cubic

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and care is taken at each stage of the process to avoid contamination. The olive oil is washed with alcohol before sterilisation. The mercuric iodide readily dissolves in the castor oil when heated on a water bath at 70° C. This solution has given very satisfactory results in clinical practice during the past six years. Scarcely any pain is produced by the injections, and they have not been followed by general intolerance, diarrhœa, stomatitis, scars, abscesses, or marked swelling. In some cases nodosities have been produced, but they were of only slight importance. If a stronger preparation is desired it is possible to produce a solution containing 1·5 per cent. of mercuric iodide by using equal parts of

of moisture causes a precipitation of the mercuric iodide, and this rapid dissociation may play an important part when the injection comes in contact with the tissues of the body containing from 74 to 78 per cent. of water. It is quite possible *that the tolerance and* elimination of the injection are prejudicially affected by the addition of potassium iodide.

GIBRALTAR AND ALGECIRAS

Sir F. Evans, Colonial Secretary of Gibraltar, *reporting on the Blue*-book of the colony for 1908, gives the present estimated population (including 5127 military) at 23,443—i.e., 12,949 males and 10,494 females. The death rate for the year was 16·8 per 1000. The number of patients treated in the Colonial Hospital was 531, or 160 less than in 1907. There were only three admissions to the Small-pox Hospital.

there are others who, to escape the rigorous winter in
parts, or recognising Gibraltar and Algeciras as capital centres from which to make tours into Spain and visits to Morocco, remain

temporarily at the hotels. Between Algeciras and Gibraltar there is steam ferry communication at short intervals during each day. This greatly assists communication between the two places. Mr. W James, British Vice Consul at Algeciras, writes to the Foreign Office as follows: "Visitors to this town and to the South of Spain, viâ the Algeciras Railway, are ever on the increase; 58,601 passengers travelled into Spain by train from here during 1908, and the local hotels have been quite full during the season. Undoubtedly Algeciras increases in favour as a health resort year by year, and the general consensus of opinion among visitors is that if only something were done by the Government and local authorities to make the place more attractive the coast of Algeciras Bay would soon become a Spanish Riviera. Algeciras was visited during the year by the King of Spain. It is the first time for over 200 years that the Campo de Gibraltar has been visited by a Spanish monarch. It is rumoured that His Majesty was much struck by the possibilities of Algeciras as a winter resort, and he was graciously pleased to promise a deputation which waited upon him that he would use his influence with the Government to have the condition of the roads improved and their number increased. Up to the present the season has commenced in January and extended to the end of April, but, as a matter of fact, this is the rainy and most unpleasant part of the winter here, and the only cold time in the year is in January and February, when the cold from the surrounding snow-covered hills is very severe. In November and December and the beginning of January the temperature is mild, bright, and dry, and it is a pity visitors do not choose November as the time for coming here. The difference of climate between this place and Gibraltar, across the bay, is quite extraordinary, and even the rainfall differs. In 1908, for instance, it was 30·08 inches in Algeciras and 27·48 inches in Gibraltar. The British residents in Algeciras number about 198."

LYNN THOMAS AND SKYRME FUND.

THE following additional subscription to the fund has been received: D. C. Lloyd-Owen (Birmingham), £1 1s.

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A. J. D.—No definite rule can be laid down, and there is no question of correctness It is a matter of courtesy that one medical man should treat another medical man or his family while they are dependent on their father without a fee, but the custom must be regulated by circumstances. For instance, if a medical man is wealthy, or has retired from practice with a sufficiency, there is no reason why he should not pay one of his brethren for medical advice for himself or his family.

Dr. J. Foster Vince.—The name of the medical man about whom our correspondent writes appears in the American Medical Directory for 1906. We have no information other than what we have seen in newspaper cuttings similar to the one enclosed, but we advise our correspondent to urge his patient not to waste her money on a remedy the nature of which is unknown.

R. C.—An analysis of Hollands gin appeared in THE LANCET of July 25th, 1908, p. 243, and attention was directed to its diuretic action.

First Aid.—Permission to give lectures on any subject at a private school rests with the proprietor or proprietors of such school.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

MEDICAL SECTION (Hon. Secretaries—Herbert P. Hawkins, A. M. Gossage): at 5.30 P.M.

Paper:

Dr. G. A. Sutherland: Gastro-intestinal Crises from Effusion into the Bowel Wall.

THURSDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—Hugh Lett, E. I. Spriggs, Harold J. Stiles).

Wightman Lecture:

Dr. George Carpenter: Congenital Heart Affections.

NEUROLOGICAL SECTION (Hon. Secretaries—Leonard G. Guthrie, E. Farquhar Buzzard): at 8.30 P.M.

Dr. James Collier and Dr. Gordon Holmes: Amyotonia Congenita: (1) The Pathological Findings in a Case previously shown before the Section; (2) Demonstration of a Further Case with the results of a Biopsy.

Dr. Albert Wilson A Critical Description of the Brain of a Degenerate (a Convict and a Murderer).

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, Kensington Town-hall.

FRIDAY.—8.15 P.M., Sir Victor Horsley: The Cerebellum. (Cavendish Lecture.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East

TUESDAY AND THURSDAY.—5 P.M., Dr. W. S. Lazarus-Barlow: Rad activity and Carcinoma (an Experimental Enquiry). (Croon Lectures.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's I Fields, W.C.

FRIDAY.—5 P.M., Dr. G. E. Smith: The Evolution of the Bra (Arris and Gale Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. J. Pringle: Clinique (Skin). 5.15 P. Lecture:—Dr. H. Campbell: Treatment of Asthma.

TUESDAY.—4 P.M., Dr. H. Campbell: Clinique (Medical). 5.15 P. Lecture:—Dr. T. D. Lister: Infantile Scurvy.

WEDNESDAY.—[illegible] Lecture:—[illegible]

THURSDAY.—4 [illegible] 5.15 P.M., [illegible]

FRIDAY.—4 P.[illegible] an Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmit road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Demonstration Cases in Wards. 12 noon, Pathological Demonstration:—D Bernstein. 2 P.M., Medical and Surgical Clinics. X Ray Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M. Lecture:—Mr. Bidwell: Practical Surgery.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operation 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operation Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—M Bidwell: Surgical Treatment of Acute General Peritonitis.

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose and Ear. Dr. Saunders: Diseases of Children. 12.15 P.M. Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medica and Surgical Clinics. X [illegible] the Eyes 2.30 P.M., Operation [illegible] Women 5 P.M., Lecture:—Dr. [illegible]

THURSDAY.—10 A.M., Lect [illegible] of Cases in Wards. [illegible] X Rays Mr. Dunn: [illegible] tions. 5 P.M., Lectur [illegible]

FRIDAY.—10 A.M., Dr. Mo [illegible] —Medical Registrar: [illegible] Medical and Surgica [illegible] of the Throat, Nose [illegible] Abraham: Diseases of [illegible] Anæsthetics.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. Mr. Harman: Diseases of the Eyes. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Medi[illegible] Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. [illegible] Out-patient (Mr. W. Edmunds); Gynæ[illegible] Giles). 4.30 P.M., Demonstration:—Dr. J. E. Squire: Cases of Early Tuberculosis of the Lu[illegible]

WEDNESDAY.—Clinics:—2.[illegible] T. R. Whipham); Skin (Dr. [illegible] rooks). [illegible] Giles).

THURSDAY.—2.30 P.M., Gy[illegible] urgical Clinics:—Medical [illegible] (Mr. H. W. Carson); [illegible] al In-patient (Dr. G. P. Chappel). [illegible] Demonstration: Dr. A[illegible]

FRIDAY.—[illegible] (Mr. H. Evans). 2.30 P[illegible] :—Medical Out-patie[illegible] Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. E. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M[illegible] P.M., Dr. F. Taylor: Medicine. 3.30 P[illegible] iology. Out-patient Demonstrations: [illegible] ical. 11 A.M., Eye. 2.15 P.M., Specia[illegible] Relapsing Fever.

THURSDAY.—2 P.M., [illegible] G. Rankin: Medicine. 3.15 P.M., [illegible] 4 P.M., Dr. Sale Barker: Radiogra[illegible] strations:—10 A.M., [illegible] oat.

F[illegible] 2.15 P.M., Dr. R. Bradford: [illegible] McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 3.15 P.M., Special Lecture:—Mr. McGavin: Congenital Malposition of the Testis.

SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3 30 P.M., Clinical Lecture:—Dr. T. G. Stewart: Nervous Manifestation at the Menopause.
FRIDAY.—3 30 P.M., Clinical Lecture:—Dr. T. G. Stewart: Spinal Tumours.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3 45 P.M., Lecture:—Mr. Stuart Low: Accessory Sinuses.
FRIDAY.—3 45 P.M., Lecture:—Mr. Stuart-Low: Accessory Sinuses.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck street, W.

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OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1 30 P.M.), St. Thomas's (3 30 P.M.), St. George's (2 P.M.), St. Mary's (2 30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2 30 P.M.), West London (2.30 P.M.), London Throat (9 30 A.M.), Royal Free (2 P.M.), Guy's (1 30 P.M.), Children, Gt. Ormond street (9 A.M.), St. Mark's (2 30 P.M.).

National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9 30 A.M. and 2 30 P.M.). Gt. Northern Central (2 30 P.M.), West-

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 17th, 1909.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rainfall.	Solar Radio in Vacuo	Maximum Temp Shade	Min. Temp.	Wet Bulb	Dry Bulb	Remarks.
June 11	29 94	N.	0 05	91	55	46	46	49	Cloudy
" 12	29 97	N.	0 05	91	55	45	48	51	Cloudy
" 13	30 14	N.W.	0 65	113	67	49	50	56	Cloudy
" 14	30 25	S	...	118	63	49	51	58	Hazy
" 15	30 23	N E	...	103	61	50	49	53	Cloudy
" 16	30 20	N.E.	...	105	67	51	51	55	Overcast
" 17	30 28	N.E.	...	104	63	51	51	53	Overcast

Communications, Letters, &c., have been received from—

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J.—Dr. O. Jennings, Le Vésinet; Mr. H. Emlyn Jones, Lond.

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The Croonian Lectures

ON

RADIO-ACTIVITY AND CARCINOMA: AN EXPERIMENTAL INQUIRY.

Delivered before the Royal College of Physicians of London on June 15th, 17th, 22nd, and 24th, 1909,

By W. S. LAZARUS-BARLOW, M.D. Cantab., F.R.C.P. Lond.,

DIRECTOR OF THE CANCER RESEARCH LABORATORIES, THE MIDDLESEX HOSPITAL, W.

LECTURE I.

[After thanking the College for the honour it had done him in inviting him to deliver the lectures, pointing out that the inquiry was still incomplete and that contributions to the entire research had been made by numerous workers in the Cancer Research Laboratories of the Middlesex Hospital, the lecturer proceeded as follows:—]

The leading idea throughout the whole research has been the undoubted fact that workers with x rays are liable to suffer from carcinoma of the hand. It is unnecessary to labour this point in view of the conclusive evidence furnished by my former assistant, Mr. C. W. Rowntree, in his Hunterian lecture before the Royal College of Surgeons of England on March 17th, 1909. From a careful examination of the microscopical sections shown by Mr. Rowntree I am convinced that he is right in describing the x ray condition which may follow on a somewhat severe and prolonged dermatitis occasioned by exposure to x rays as a squamous cell carcinoma. Into the question of the relationship of the x rays to the carcinoma, whether it is specific and direct or non-specific and, so to speak, accidental, I do not propose to enter here. It will be more convenient to deal with the whole subject at the conclusion of the lectures. For the moment it will suffice to allow that exposure to x rays and carcinoma of the hand are closely related in certain cases.

The next idea of importance in connexion with the research is that for many years certain physical agents have been considered by the profession to be causally related to cancer of special sites. Thus, clay pipes have been associated with cancer of the lip, paraffin and tar with cancer of the hands and arms of workers with these substances, soot with cancer of the scrotum in chimney-sweeps, gall-stones with cancer generally and particularly with cancer of the gall-bladder. In addition, betel-nut chewing[1] has been associated with cancer of the cheek, especially in Ceylon and the East where the habit is common; use of the kangri has been associated with "kangri cancer" in Kashmir; while bilharziosis in Egypt has been held accountable for cancer of the bladder. Similarly it has been noted that cancer occasionally develops on old scars, on the floors of chronic ulcers, and on the sites of lupus.

[illegible] suggested the inquiry [illegible] tar, soot, &c., emit [illegible] active properties. If [illegible] the positive, a single factor would be demonstrated to be present in a group of physical agents differing to the widest degree from one another, and the probability that each particular variety of cancer depended upon the physical agent usually inculpated would be strengthed, while presumption would be raised for the proposition that the common factor in all the physical agents—i.e., their radio-activity—is causally related to the common factor in the pathological conditions to which they all are supposed to give rise—i.e., the cancer.

It is remarkable that the cancer in all the cases that have been mentioned above, with the sole exception of that affecting the gall-bladder, is squamous cell carcinoma. Moreover, the histological diagnosis is almost invariably to be made with great ease, Malpighian cells, prickle cells, and epithelial pearls being conspicuous. For this reason the present research has been confined to the group of carcinomata, meaning thereby squamous cell, columnar cell, and spheroidal cell carcinomata as determined by microscopical examination. The research therefore resolved itself into a determination whether clay pipes, &c., and carcinomatous material give evidence of radio-activity.

The two chief criteria of radio-activity relied on by the physicist are (1) the action of the substance in question upon a charged electroscope; and (2) its action upon a photographic plate in the dark. Of these criteria action upon a photographic plate in the dark is well known to the medical profession in the production of skiagraphs, but it is upon the electrical properties that the physicist places more reliance.

Owing to the fact that the x ray tube only emits γ radiations while such radio-active substances as radium, uranium, and thorium emit α particles, β rays, and γ rays, while they also are far more complex than their chemical names would suggest, it became necessary to consider these substances as well as the x rays. It is clear that a substance may belong to the radio-active group and yet fail to produce γ radiations. Thus "chemically pure" uranium oxide emits α particles and β and γ rays, but the physicist can separate a uranium oxide [illegible] affects a charged electroscope.

In addition to their power of affecting a photographic plate in the dark radio-active substances emitting γ rays with their high velocity and penetrating power or β rays with their somewhat lower but still great velocity and penetrating power, have the property of affecting the photographic plate though separated from the film by such substances as aluminium, mica, &c. This property forms an important means of differentiating the action of a recognised radio-active substance, such as radium or thorium, from other substances which apparently fail to possess the power of acting through a screen. How far this differentiation between radio-active and non-radio-active substances may be carried by this method will be discussed later.

Electrically, the recognised radio-active substances have the property of accelerating the discharge of an electroscope whatever the sign of the electricity with which its leaves are charged. This property depends upon the fact that the radio-active substance by the α particles (helium atoms charged +), β rays (negative electrons), and γ rays which it emits, ionises the air in the electroscope, breaking the molecules up into their constituent atoms, each of which is electrically charged + or −. These charged atoms collide with the charged gold leaves, and such as are of opposite sign to the charge on the leaves neutralise a corresponding amount of electricity on the leaves. The greater the ionisation of the air in a given time the more rapidly the charged leaves fall together and the greater the radio-activity of the substance under investigation is said to be.

From what has been said it follows that the various substances dealt with in the present investigation call for consideration (1) as regards their action when exposed to a photographic plate in the dark, and (2) as regards their influence upon the rate of leak of an electroscope (*a*) charged + and (*b*) charged −. In addition it is necessary to determine the same points in regard to non-carcinomatous substances, and further, to determine the influence of radio-activity upon the division of cells by direct experiment. In the present lecture I propose to show that certain animal tissues and other substances have the power of acting upon a photographic plate in the dark; in the second lecture I shall consider, so far as possible, the properties and nature of the substances in the tissues which possess this power; the third lecture will be devoted to a consideration of the electrical properties of the carcino-[illegible] substances; while the fourth [illegible] fluence of radio-activity upon [illegible] a short general survey of the bearings of the experiments.

The Skotographic Action of Certain Animal Tissues and Other Substances.[2]

If a sample of human liver be minced, dried in the hot air

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[1] I am informed that the substance used is areca nut powdered and mixed with slaked lime and wrapped in a betel leaf.

[2] I have ventured to extend the use of the word "skotograph" to [illegible]

No. 4478.

oven at 100-110° C., reduced to a powder, and some of this powder be placed on a photographic film in the dark, and the plate and powder be kept in contact in complete darkness for a certain length of time, it will probably be found, on developing the plate, that the former situation of the powder is indicated by a more or less considerable punctate deposition of silver. Prior to development the photographic plate shows no alteration. Similarly if a "pure" cholesterin gall-stone be exposed to a photographic plate in the dark, subsequent development of the plate will probably show an intense deposition of silver which occupies a larger area than corresponds to the area of the calculus in contact with the plate (Figs. 1 and 2). Skotographic action is not manifested by all animal substances; for example, it is rarely produced by spleen or lung dried and powdered as above, while numerous experiments made with uric acid calculi, paraffin wax, and clay pipes have shown that these substances possess no skotographic power. Similarly, certain varieties of micro-organism possess marked skotographic power, while others appear to be totally deficient. It is unnecessary here to enter into the details of the method for obtaining skotographs or the precautions to be taken in order to eliminate the action of light or of any outside influence of a recognised radio-active nature. These are all given elsewhere.[3] It must be stated, however, that the values assigned to the various plates showing skotographic action were determined by comparing them with the effect produced in a photographic plate by allowing x rays to act upon it through a Benoist's gauge. Since the gauge consists of aluminium graduated in thickness from 1 millimetre to 12 millimetres a graduated deposition of silver takes place on the plate. It was possible to graduate the degrees of silver deposition by this means from 0 to 6, and since the same skiagraph was used throughout, the values given for the various substances and tissues are comparable among themselves.

Tissues from non-malignant cases.—In all, tissues from 115 bodies of persons dying from some cause other than malignant disease were examined skotographically. In most instances the examination included samples of liver, kidney, spleen, and lung. The patients were of both sexes and of all ages. They were grouped for purposes of comparison into the following age-periods: "under 2 years" of age, 2–20 years, 21–35 years, 36–45 years, 46–55 years, and "over 55 years" of age. This grouping of age-periods was made in order to institute a comparison with similar tissues derived from cases of carcinoma. In addition to the above, specimens of brain, pancreas, breast, liver of sheep and of ox, tissues of mouse, guinea-pig, and rabbit were examined skotographically, but no reference to the results will be made here.

The results of the investigation are summarised in the following table:—

Table showing Mean Skotographic Values of Liver, Kidney, Spleen, and Lung in 115 Non-malignant Cases.

MALES.				FEMALES.			
Age under 2 years (10 male, 10 female cases).							
Liver.	Kidney.	Spleen.	Lung.	Liver.	Kidney.	Spleen.	Lung.
1·7	2·3	0 8	0 9	3 1	1 6	0 9	1·1
Age 2–20 years (9 male, 6 female cases).							
2·1	2 4	0 6	0 4	3·2	2 8	0 4	0 6
Age 21–35 years (12 male, 10 female cases).							
3 0	2·6	1·1	0·75	3·7	2·3	0 5	0 6
Age 36–45 years (9 male, 10 female cases).							
2·7	1·6	0 3	0 0	3·4	3·9	0 9	0 5
Age 46–55 years (10 male, 10 female cases).							
3·3	1·4	0 5	0 0	4 2	2 7	0 8	0.8
Age over 55 years (11 male, 8 female cases)							
3·9	2·0	0 5	0 9	2·6	2·5	1 1	0 25
Means at all ages (61 male, 54 female cases).							
2·8	2·1	0·6	0·6	3·4	2·8	0 8	0·6

From this table it appears that liver and kidney possess a far higher skotographic power than spleen or lung, and that the female tissue in each case has a greater skotographic power than the corresponding male tissue. Owing to the large size of the liver and to the fact that it exerts the largest amount of skotographic effect, the figures may be examined more closely. It is seen that the skotographic power of the liver in males increases steadily throughout life, with the exception of a fall at the age-period 36–45 years. In females this rise in skotographic power of the liver, including the fall at the age-period 36–45, is also seen. But whereas the values for the male reach their highest in the age-period "over 55 years" this same age-period in females witnesses a remarkable fall in skotographic power of the liver. Further reference to this point will be made in the last lecture. The small mean values obtained for the spleen and lungs are due to the fact that occasionally these organs exert a definite effect. Two-thirds of the total number of spleens examined skotographically, and two-thirds of the total number of lungs, were absolutely without skotographic power. On the other hand, only one-fifth of the total number of livers examined skotographically were without effect.

Carcinomatous material.—The skotographic value of the primary mass has been determined in 17 cases of carcinoma; of secondary growths, 29 specimens from 24 cases have been examined. Eleven of the cases were male, 30 were female. Two primary and four secondary growths were without skotographic effect or the effect was doubtful. The mean skotographic value of the male primary masses was 2·0, male secondary masses, 2·5; that of the female primary masses was 3·6; female secondary masses, 3·2. Hence the superiority of the skotographic value of female tissue over that of male tissue obtains also in the case of carcinoma. (Cf. Figs. 3 and 4.)

Tissues from cases of carcinoma.—The skotographic values of the liver, lung, kidney, and spleen have been determined in 72 cases of carcinoma, 41 of which showed important metastases, and 31 insignificant metastases or none at all. The cardinal facts that liver and kidney exert a greater skotographic power than lung and spleen, and that the skotographic power of a female tissue is greater than that of the corresponding male tissue are shown in this class of case as in that in which there is no malignant disease. But it appears that the carcinomatous condition is not without effect upon the skotographic power of the various tissues. This is best seen by considering the case of the liver.

The effect of carcinoma upon the skotographic power of the liver may be considered in two ways. 1. Livers themselves free from metastasis may be compared skotographically according as they are derived from cases in which the total mass of carcinomatous material in the body is great or is small. 2. A comparison may be made between the hepatic tissue of non-malignant cases and the hepatic tissue of carcinomatous cases in which the liver is the seat of numerous large metastases. These two different methods of approaching the question agree in indicating that carcinoma augments the skotographic power of the liver in males and decreases it in females. In the following table are given the figures upon which this statement is founded:—

Table to show the Influence of Carcinoma on the Skotographic Power of the Liver.

Age.	Males.				Females.			
	Non-malignant cases.	Growth present in liver.	Much growth in body.	Little growth in body.	Non-malignant cases	Growth present in liver.	Much growth in body	Little growth in body.
Under 35	3 0	—	—	—	3·7	2 0	1·7	4 0
36–45	2 7	3 5	2 75	—	3·4	3 5	3·7	4·25
46–55	3·3	3 5	3·5	1·8	4·2	—	3 7	4 0
Over 55	4 0	4 5	4 5	3·8	2 6	2 5	2 5	2 6

But consideration of the above table shows that the matter is not so simple. For although male hepatic substance in the neighbourhood of liver metastases is more skotographic than non-malignant liver, while the converse is true in the case of the female, and although male hepatic substance where there is much growth in the body is more skotographic than when there is little, while the converse is true in the case of the female, a small amount of carcinoma in the body appears to diminish the skotographic power of the male liver, while it augments that of the female liver. I do not attempt an explanation of these points; indeed, they need confirmation on a much larger number of cases. The regularity with which female liver and male liver act in opposite directions in the face of what is apparently a single condition—i.e., carcinoma, is, however, such that it suggests the existence of some sort of interaction between carcinoma and the skotographic property of the liver. On the other hand, we may be quite wrong in considering carcinoma as a single condition relative to the two sexes; it has already been shown that male and female carcinomatous materials differ in skotographic power.

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[3] Lazarus Barlow: On the Effect Produced by Certain Animal Tissues on [illegible] ark, Archives of the Middlesex [illegible] ancer Report), p. 111. Colwell: Th [illegible] uli upon Photographic Plates in th [illegible] of the Royal Society of Medicine, [illegible] 127.

The only condition in which a thoroughly satisfactory determination can be made of the influence of carcinomatous growth upon the skotographic power of the tissue in which it lies is that in which one of paired organs is the seat of metastasis. This is relatively so uncommon, and when it occurs the chance that the metastasis will be sufficiently large to influence the neighbouring tissue of the organ to any extent is so small, that I have only obtained a single example. The case was one of carcinoma of the cervix, and one kidney was the seat of a fairly large number of metastases while the other was free. The renal substance of the unaffected kidney had a skotographic power of 3, while the renal substance of the affected kidney was absolutely without effect upon the photographic plate. This case therefore conformed to the statement made above for the liver, that in the female carcinoma leads to a diminution of the skotographic power of the tissue in which it lies.

Substances commonly supposed to be causally related to carcinoma.—Numerous samples of clay pipes, soot, pitch, paraffin wax, metallic arsenic, arsenious oxide, areca nut, cholesterin gall-stones, pigment gall-stones, renal and vesical calculi have been examined skotographically, the calculi, renal, biliary, and vesical, being made the subject of an extended research by Dr. Colwell.[4] Skotographic effect was exhibited by one sample of soot out of two examined, by areca nut on all of numerous occasions, by each of 23 specimens of cholesterin gall-stone more or less "pure," in three out of four samples of pigment gall-stones examined, the effect being always very slight as compared with the action of the cholesterin calculi, and by 30 out of 38 vesical calculi. Metallic arsenic and arsenious oxide produced effects upon the photographic plates, but inasmuch as the films showed alteration before development the action cannot be regarded as skotographic. On the other hand, none of nine specimens of clay pipe, of numerous samples of paraffin wax, of four samples of pitch from different localities, of several specimens of coal yielded the slightest trace of skotographic action.

In the case of cholesterin gall-stones the action on the plate extends widely beyond the area of the surface of the calculus in contact with the plate, but in the case of all the other substances the area of silver deposition was co-extensive with the area of contact between substance and film. This is well seen in the skotographs of vesical calculi in which rings of silver deposition alternate with rings of no deposition in such a way that a picture is formed of the surface of the calculus by which the skotograph was produced. (Fig. 5.) When the nucleus of a calculus, or certain laminæ, or the entire calculus consists of "pure uric acid" the corresponding part of the film shows a complete absence of skotographic effect. As a rule, calculi or laminæ in calculi, consisting of urate of ammonium, oxalate of calcium, phosphate of calcium, or ammonio-magnesium phosphate, possessed skotographic power, but since instances to the contrary were found Dr. Colwell concluded that the chemical substances in question, *as such*, were not the effective agent. Similarly, he found that purified cholesterin obtained from a gall-stone which produced a profound effect upon a photographic plate was itself entirely devoid of skotographic power.

Skotographs of areca nut are of especial interest in connexion with the observation made by Dr. Russell, F.R.S.,[5] that almost all varieties of wood affect a photographic plate when placed in contact with it under conditions of total darkness—i.e., possess skotographic powers. This power is possessed by the winter and spring woods in different degrees, so that a skotograph of a piece of wood reproduces a picture of the grain of the wood in the same way as a skotograph of a vesical calculus reproduces the appearance of the cut surface of the calculus. Similarly a skotograph of a bisected areca nut shows the peculiar markings of the nut in all their detail. (Fig. 6.)

LECTURE II.

THE NATURE OF SKOTOGRAPHIC ACTION.

Russell's researches upon the effect of various woods upon a photographic plate in the dark led him to the conclusion that the deposition of silver is occasioned by traces of hydrogen peroxide, formed owing
resinous substances in
This strictly chemical
hydrogen peroxide so minute as to be beyond detection by any other method, is distinguishable from the action brought about by ethereal vibrations, such as those of β or γ rays, by the fact that it is completely inhibited by interposing a thin screen of mica between the wood and the film. Russell showed further that wood which had been exposed to strong sunlight before placing in contact with the photographic film produces a far stronger effect than wood which has been kept in the dark. Under these circumstances it became necessary to determine as far as possible with what constituent or constituents of the animal tissues their skotographic power was bound up, and subsequently whether that power conformed more to the type of a chemical substance, and particularly to hydrogen peroxide, or more to that exerted by ethereal vibrations. It must be stated at the outset that a complete answer cannot be given to the above questions. It can rather be said what the skotographic power is *not* bound up with than what it *is*. Similarly it will be found that it is impossible to include it definitely in the chemical or the physical group of phenomena, since in certain respects it appears to resemble hydrogen peroxide, and in others to resemble an ethereal vibration.

Attempts at isolation of the skotographic substance.—The skotographic substance, or substances, for there is reason to believe that in the liver at least two substances exist which differ from one another in certain reactions, but agree in affecting a photographic plate in the dark, is not protein, or fat, or carbohydrate, or colouring matter, or mineral salts. Each of these constituents of the tissues has been definitely excluded. It is unnecessary to enter into a detailed account of the method in which this has been done, for it has been recorded elsewhere.[6] The following short account will suffice. That it is not *protein* is indicated by the fact that it is yielded by liver, for example, and not by spleen; while the same fact shows that it is not dependent upon the "cellularity" of the tissue as such. But the non-protein character can be shown by obtaining a completely protein-free extract of the tissue and proving that this extract still possesses skotographic power. Fig. 7 shows that this is the case. It was produced in the following way. Liver of sheep was minced and allowed to stand under distilled water for 18 hours. The watery extract was then acidified, boiled, and filtered. To the filtrate three times the volume of basic lead acetate in solution and suspension was added and the resulting precipitate was filtered off. Then sulphuretted hydrogen was passed through the filtrate to precipitate the lead, and after the filtrate from this operation had been concentrated to small bulk upon a water bath it was added to twenty times its volume of absolute alcohol and allowed to stand for three weeks. The merest trace of precipitate was formed and was filtered off and the alcohol was removed by evaporation. The residual fluid was then used to write certain words on a plain glass plate with a camel-hair pencil, and this plate was exposed to the photographic film under skotographic conditions and separated from contact with the film by strands of cotton. It is seen that this watery extract of liver in which none of the laboratory tests for protein shows the slightest trace of the material possesses intense skotographic power. The process for purification from protein has been checked at every stage as well as the reagents used, and it is certain (1) that the skotographic power is not introduced during the process; and (2) that the various precipitates formed are devoid of skotographic power except in so far as they are contaminated with the corresponding filtrate.

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[4] Loc cit.

[5] Philosophical Transactions of the Royal Society, Series B, vol. cxcvii, 1904, p 291, especially, other papers in same Transactions both before and after.

[6] Lazarus-Barlow: Archives of the Middlesex Hospital, 1908, vol. xiii., p 130

That the skotographic substance is not *fat* as such is shown by the fact that a material which has been rigidly extracted with ether still possesses skotographic power. Thus all the powdered tissues that were used to arrive at the conclusions given in the first lecture were extracted with pure ether in a Soxhlet apparatus for a minimum of six hours before being examined skotographically. This method extracts the phosphorised as well as the non-phosphorised fats. Just as the watery extract of a liver, for example, possesses skotographic powers, so it is possessed by an ethereal extract. Into the question of the actual constituent of the ethereal extract which possesses the power it is impossible for me to enter. The chemical analysis I have not attempted owing to its difficulty. That the skotographic substance is not *carbohydrate* as such is proved by the facts that some of the extracts by which it is manifested contain carbohydrate while others are devoid of it, that it is manifested by ethereal extracts, and, as will be shown later, that it survives charring. The fact that the skotographic power is independent of the water-soluble and the ether-soluble *pigments* of the tissue is shown by the persistence of effect if one of these extracts be decolourised by finely divided animal charcoal. And finally, that it is independent of the *mineral constituents* of the tissue, at least those which survive a temperature of 300° C. (see below), is shown by the fact that the ash of a tissue which possesses marked skotographic power is entirely without effect upon a photographic plate in the dark.

The skotographic power of any tissue is completely removed if it be first extracted with water and subsequently with ether. This appears from the accompanying figure in which the upper fourth shows the effect of the original substance; the second fourth shows the effect of a watery extract; the third, that of an ethereal extract made subsequently to the watery; the bottom fourth, over which there is an absence of skotographic action, was exposed to the solid residue after the watery and ethereal extractions (Fig. 8). A similar absence of skotographic power characterises a tissue which has been extracted with acetone as might be expected since it dehydrates and also extracts fat. Just as the skotographic power is contained in the watery and ethereal extracts, so it is contained in one made by acetone, and by evaporating with care the constituents of the original skotographic material which are soluble in water and those which are soluble only in strong acetone may be divided. They are apparently the same as those which are contained in the watery and ethereal extracts when these are made separately.

But though it is clear that the skotographic power is not a property of protein as such, there is no doubt that it is a property of certain organic substances, as distinguished from inorganic, that are probably derived from protein. As will be shown later, the skotographic power is not destroyed, even though the substance manifesting it be heated to a temperature of 300° C. Such a temperature chars the substance and no doubt breaks up much of the protein, but from it a material, often of polymorphic crystalline character but highly deliquescent, can be separated which exerts a skotographic effect and which is still organic in nature, as shown by the fact that it chars on further heating. By repeated solution in water and precipitation with absolute alcohol, this crystalline material can be divided into a honey-like non-crystallisable and a colourless crystallisable portion. The skotographic power resides chiefly, if not entirely, in the honey-like, highly deliquescent material. This material is dialysable with ease and carries with it the actual skotographic substance. Further than this analysis has not gone.

Conditions determining the manifestation of skotographic power by substances possessing it.—It has been shown above that I have not succeeded in isolating the skotographic substance, though it has been stripped of certain materials with which it is usually associated. It has therefore been necessary to investigate the skotographic property upon crude material, and for this purpose the ether-extracted, dried, and powdered original material and watery extracts that have been freed from protein in the way already described have chiefly been used.

Relation of substance to the photographic film; contact; proximity; screens.—All the skotographic effects to which reference was made in the first lecture were obtained by allowing the powdered substances to lie in actual contact with the photographic film, but there is no doubt that they can act at a little distance. This is better seen in considering the watery extracts, for when they were under investigation contact with the film was necessarily excluded. Attempts were made to determine the maximum distance at which recognisable skotographic effect is produced by exposing a glass plate bearing the watery extract to the photographic plate at an angle. In this way, and using photographic plates specially sensitised for x-ray work, it was found that the watery extract used for producing Fig. 7 is still effective when it is separated from the film by a distance of 15 millimetres.

The question of screens between the material and the photographic film is one of fundamental importance in trying to arrive at a conclusion as to the nature of skotographic action, and must therefore be dealt with in some detail. It may be stated at the outset that interposition of a screen of the order of thickness of that used in examining the effects of recognised radio-active materials, such as uranium or thorium, between the animal substance under investigation and the photographic film completely eliminates skotographic action. This is true whether the screen be metallic (e.g., aluminium) or non-metallic (e.g., mica), however intense the skotographic action may be in the absence of a screen, or however long (up to six weeks) the exposure may have been, and even though it have been carried out at 55° C.

On the other hand, the matter is not simple, as the following experiments show. If a flat section of an areca nut or of liver be coated with a thin film of celloidin and the whole be exposed to a photographic plate in the ordinary way it will be found that the greatest deposition of silver occurs on that part of the plate which was separated from the substance by the celloidin. That this effect is not due to the celloidin itself is shown by the fact that an old film of celloidin is entirely without skotographic effect, and in the areca nut experiment the celloidin had been painted on the nut two years before it was exposed to the photographic plate. (Fig. 6). In the second place, if an albuminate of thorium be made by allowing a solution of the nitrate to fall into egg-white the resulting precipitate after drying and powdering fails to affect a photographic plate through a film so thin as that produced by brushing a minute quantity of egg-white over tissue paper, though a fair deposition of silver occurs when the albuminate is separated from the photographic film by tissue paper uncoated with egg-white. Such an albuminate of thorium contains about 10 per cent. of the radio-active element by weight. Even in this case it is possible that such direct skotographic effect as was produced was due to uncombined radio-active salt, since the precipitate was not washed for fear of hydrolysis. In several instances where the precipitate with thorium was washed

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Descriptions of Illustrations on Page 1805.

Fig. 1.—Skotograph of dried, powdered, ether-extracted, non-malignant liver.

Fig. 2.—Skotograph of pure cholesterin gall stone. Action occurs well beyond the limits of the calculus.

Fig. 3.—Skotograph of dried, powdered, ether-extracted primary spheroidal cell carcinoma of breast.

Fig. 4.—Skotograph of dried, powdered, ether-extracted pulmonary [illegible] spheroidal cell carcinoma of the breast.

[illegible] f a mixed phosphatic and uratic calculus

[illegible] of a section of a betel nut. The dark crescent was at the seat of a film of celloidin two years old.

Fig. 7.—Skotograph produced by a protein-free watery extract of sheep's liver. Material prepared and skotograph taken March 24th, 1908. Compare with Fig 10

Fig. 8.—Skotograph showing that the power of affecting a photographic plate in the dark manifested by dried, powdered, non-malignant liver (top quarter) is entirely removed (bottom quarter) by extraction with water and subsequent extraction with ether. The extracts possess strong skotographic power.

Fig. 9.—Skotograph [illegible] oil can be transported [illegible] photographic plate at [illegible] deposition.

Fig. 10.—Skotograph with protein-free watery extract of sheep's liver used to produce Fig. 7 over a year after original preparation.

Fig. 11.—Skotograph of a phosphatic calculus removed by Percival Pott (died 1788)

Fig. 12.—Skotographs on Ilford x ray and on Imperial special rapid plates produced by the same sample of dried, powdered, ether-extracted [illegible] r identical conditions. Compare with Fig. 13

[illegible] on Ilford x ray and on Imperial special rapid [illegible] same sample of sawdust under identical conditions. Compare with Fig. 12.

Fig. 17.—Skotographs of dried, powdered, and ether-extracted testis and ovary of herring. The testis produces the greater deposition of silver.

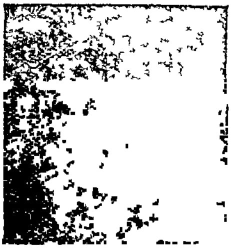

Fig. 1.

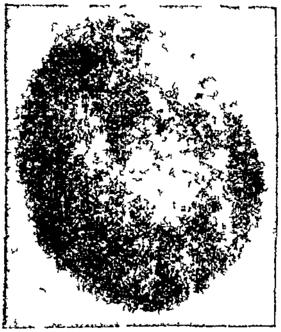

Fig. 2

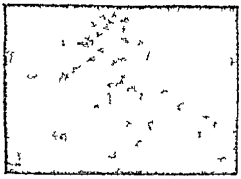

Fig. 3

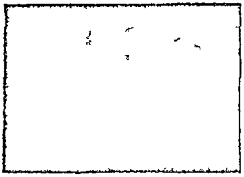

Fig. 4

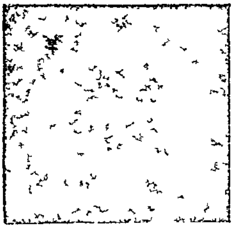

Fig. 5

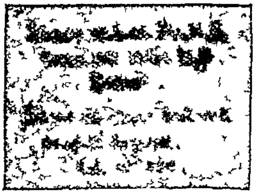

Fig. 7.

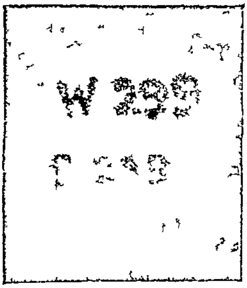

Fig. 8.

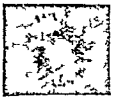

Fig. 6.

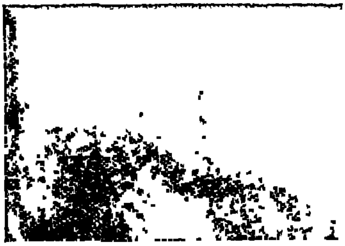

Fig. 9

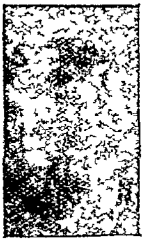

Fig. 17

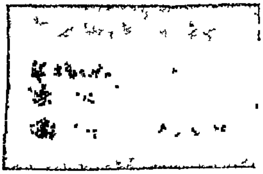

Fig 10.

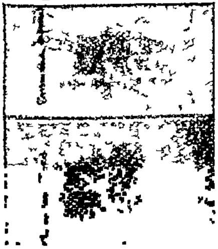

Fig. 12

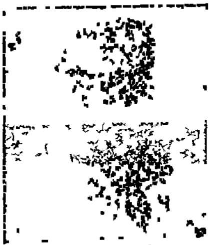

Fig. 13

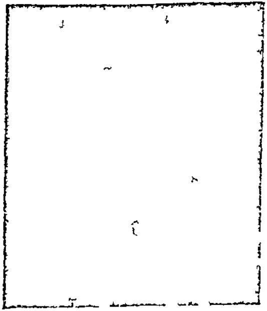

Fig. 11

thoroughly with hot water before drying it failed to produce an effect upon the photographic plate, even though it were actually in contact with it during exposure; nevertheless, such samples of albuminate showed the presence of considerable amounts of thorium on analysis. Hence under special conditions a vegetable or animal tissue may produce skotographic action through a thin film of celloidin, and a radio-active substance may fail to affect a plate through a film of egg-white of probably even a greater tenuity.

Effect of temperature.—Within the limits of – 3° C. and 100° C. it may be said that the skotographic action of the tissues is independent of the temperature provided that the exposure be longer at the lower temperatures. Thus, a degree of silver deposition which can be attained by exposing a cholesterin gall-stone for 18 hours at 55° C. to the photographic plate can only be attained after an exposure lasting for weeks at the room temperature and probably for several months in the ice-chamber at – 3° C. Exposure of the substance to a plate at a dry heat of 100° C. is an unsatisfactory procedure, but if the exposure be shortened to about half an hour silver deposition is not general but is confined to the part with which the substance under investigation was in contact. The general temperature at which the skotographs in this research were taken was 55° C., and the length of exposure was 18 hours. Except in certain cases imperial special rapid plates were used and development was by 1—20 Rodinal.

Above I have dealt with the temperatures at which the substance has been exposed to the photographic plate, but the substance itself may be exposed to a much higher temperature without undergoing complete loss of skotographic power. I have not been able to determine with exactness the highest temperature to which a skotographic substance may be raised without undergoing complete loss of its power, *but it is certain that a skotographic watery extract painted* in a thin layer upon a No. 1 coverslip and exposed to dry air at about 280° C. for five minutes will probably afford evidence of skotographic power, while a *similar* coverslip exposed to about 300° C. will not. In any case it is certain that the skotographic power is not destroyed by a temperature (about 200° C.) which chars the substance itself and therefore in large measure disintegrates it.

Leaving on one side such points as the fact that the change in the photographic plate is not due to the hygroscopic character of the partially purified photographic substance, the gradual disappearance of the power on continued exposure to air, the curious way in which occasionally there occurs a recrudescence of skotographic power in a watery or acetone extract, the fact that the power is independent *of the acidity, basicity, or neutrality of a* watery extract, points which have been made the subject of many experiments and are of great theoretical interest, I pass to *certain experiments instituted in order to compare* the photographic power of animal tissues with that manifested by woods and held by Russell to depend upon the presence of hydrogen peroxide.

Light and darkness.—Russell found that the skotographic power of a wood is profoundly influenced according as it has been exposed *to light, and especially direct sunlight*, or has been kept in darkness before exposing it to the photographic plate. *If exposed to light the skotographic power is always intensified*; if kept [illegible] In the case of animal t[illegible] this point has been [illegible] Colwell respectively. [illegible] do not show the slightest difference in skotographic [illegible] even though they may be exposed to direct sunlight or be *preserved in total darkness for* a period of six months before placing them in contact with the photographic film.

Volatility.—Inasmuch as the [illegible] power of an animal *substance disappears* after [illegible] exposed freely to air it was though[illegible] due to some volatile product. A[illegible] difficult *to imagine* a volatile subs[illegible] a temperature of 300° C., lower than which the skotographic power is not destroyed the question has been approached direct[illegible] cedar [illegible] to im[illegible] volatility, as such, is not the effective cause [illegible] effect since a skotographic effect was produced in the case of air charged with the volatile products of oil of cedar wood alone. Further, it has never been found possible to carry [illegible] used in [illegible] volatile [illegible] d in the stream of air impinging upon the photographic film by the sense of smell. Fig. 9 shows the skotographic effect of a current of air charged with the volatile products of cedar wood oil.

Experiments bearing on the question whether skotographic action is essentially due to hydrogen peroxide.—These are of two kinds. In one set Colwell took a cholesterin gall-stone which yielded a profound skotographic effect and prepared from it a sample of purified cholesterin. Examined skotographically this purified cholesterin was absolutely without effect. He now exposed a thin film (made by dissolving the cholesterin in chloroform, pouring on a glass plate, and allowing the chloroform to evaporate) to an atmosphere fully charged with hydrogen peroxide vapour for 24 hours at a temperature of 53° C. Similarly he exposed to hydrogen peroxide vapour a vesical calculus normally possessing no skotographic power. He found that now both cholesterin and vesical calculus affected the plate profoundly, but that within 23 hours of their removal from the atmosphere of hydrogen peroxide they had completely regained their original freedom from skotographic power. Probably the last traces of hydrogen peroxide had disappeared long before 23 hours, but of this there is no proof. This experiment bears upon the length of time during which skotographic power is held by a substance, a subject which will claim our attention shortly.

The second set of experiments concerns the so-called peroxydase effect shown by certain tissues. In its best known form the peroxydase reaction is represented by the guaiacum test for blood. It depends upon an oxidation of the traces of guaiaconic acid present in the freshly prepared tincture of guaiacum by oxygen that has been set free from hydrogen peroxide by a substance (peroxydase) present in the substance undergoing the test.

In examining a large number of dried and powdered tissues from this point of view as well as from that of their skotographic power I found, speaking generally, that the degree of peroxydase reaction manifested by them and measured against a standard graduated series of blue solutions varies inversely with the skotographic power. This is seen in the two series of ten consecutive specimens given below.

No.	220	221	222	223	224	225	226	227	228	229
Tissue	K.	Lg.	Lr.	K.	Lg.	S.	Lr.	K.	S.	Lg.
Photographic value ...	6	4	3	4	2	3	4	2	2	0
Peroxydase value	0	6+	5	0	4	6+	0	0	4	2

No.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tissue	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Photographic value ...	6	3	5	3	5	2	4	2	3	[illegible]
Peroxydase value	2	4	3	5	0	6	1	4	5	6

K. = kidney; Lg. = lung; Lr. = liver; S. = spleen.

This fact would seem to indicate that a tissue possessing a large amount of a substance which splits up hydrogen peroxide has but littl[illegible] power, and conversely that a substance exer[illegible] contains but little of the [illegible] perty. From this it is but a step to the conclusion [illegible] ussell, that the skotographic property is in reality nothing more than a manifestation of the *action of hydrogen* peroxide upon a photographic plate. But that this conclusion is not justified is shown by two sets of observations. Firstly, I have found that *skotographic effect* may be shown by watery [illegible] to end of their exposure to the [illegible] oxydase, and are therefore in a condition to split up [illegible] hydrogen peroxide that may be formed immediately on its production. And secondly, the inverse relations of peroxydase and skotographic power do not obtain *for dried* and powdered carcinomatous material, for such material, whether it produce a great skotographic effect or a slight one or no effect at all, is devoid of peroxydase. Amongst 17 samples of dried and powdered carcinomatous material examined for the purpose only four contradictions were found. One of these is explicable by the fact that the growth was a pulmonary metastasis and probably contained some pulmonary tissue, which has, normally, a high peroxydase co-efficient, and the remaining three, all of which were hepatic metastases, gave the least recognisable amount of peroxydase.

Duration of skotographic power.—Strictly speaking, the length of time during which a substance retains skotographic power can only be determined in the case of such materials as have actually been prepared. Thus, the material used in the production of Fig. 7 was prepared on March 24th, 1908, and inasmuch as a skotograph taken with the same substance a year later (Fig. 10) also shows effect, it is clear that the substance in question retained the power for that length of time. Numerous skotographs taken at intermediate times show that the power has been present throughout. From the time of its preparation the substance was kept in a clear stoppered bottle in the laboratory without any special precautions. This experiment renders it probable that a substance which at any time shows skotographic power also possessed it at the time of its original formation, and this assumption becomes of importance in connexion with the skotographic power of calculi. Colwell has shown that cholesterin calculi will often produce intense skotographic action directly after their removal from the body, but he has also shown that intense skotographic power may be shown by a cholesterin gall-stone that has been preserved in the museum of the hospital for over 25 years. In the case of vesical calculi he goes much further, for a calculus removed by Percival Pott, who died in 1788, shows well-marked skotographic power (Fig. 11), and faint but definite skotographic power is shown by a calculus removed from the body of a predynastic Egyptian mummy and therefore at least 7000 years old.[7]

Use of photographic plates specially sensitised for x ray work.—Recently plates have been placed upon the market which are specially sensitised for x ray work. It was thought that a series of comparative tests of the same substances, when exposed to these and to ordinary plates, might indicate whether the skotographic power of the substance under examination was more akin to light or to x rays. Dried, powdered, and ether-extracted carcinomatous material from a metastasis in the liver and ordinary deal sawdust were examined in this way. It was found that the first appearance of action on the x ray plate occurred at the end of the sixth hour of exposure and on the "Imperial special rapid" plate not till the end of the seventh hour (the powdered growth being separated from the photographic films by thin layers of filter paper), and that the ultimate density of silver deposition was greater also on the x ray plate. When the material was not separated from the photographic film by filter paper the first appearance of action was observable on both plates at the end of the first hour of exposure, but whereas it was quite marked on the x ray plate it was only just distinguishable on the other. In the case of sawdust these differences did not show themselves, the deposition of silver on the ordinary plate being very nearly, though not quite, as intense as that on the x ray plate. (Figs. 12 and 13.)

Skotographic action of bacteria.—MacCormac[8] has published the results of an investigation into the question whether skotographic action is exerted by bacteria. He examined in this respect 27 different varieties of micro-organism, and from his table they may be grouped as below:—

Group I. No skotographic action.—B. Rabinowitch. B. Cohn I. B. Gärtner. B. phosphor. albiensis. B. intestinalis sporog. B. Danysz. B. mycoides. B. coli. V. choleræ.

Group II. Skotographic action fickle.—Sarc. flava. B. Flexner. V. Metchnikovi. B. Hoffmann. B. Megaterium. M. citreus agilis. B. pyocyaneus. B. phlei II. B. prodigiosus. B. typhosus.

Group III. Skotographic action usual and considerable.—Staph. pyog. aureus. Staph. pyog. albus. B. tuberculosis. B. tuberculosis bovinus. B. diphtheriæ. "Pathogenic throat yeast." The importance of these researches will be indicated later.

Summary.—In this and the preceding lecture I have shown that certain of the tissues of the human body show skotographic action (liver, kidney), while certain do not (spleen, lung); that a larger amount of this property resides in female tissues that possess it than in male of the same kind; that the amount present in the liver increases from infancy to the age of 55 years with an unexplained drop in both sexes during the age-period 35-45, and that after 55, while it increases still further in the case of males, in females it undergoes a sharp diminution. I have shown that carcinomatous material possesses skotographic power, whether it be primary or secondary, and that female carcinomatous tissue has a higher skotographic value than male; and that the existence of a mass of carcinoma in a tissue modifies its normal skotographic value. I have found that certain substances commonly supposed to be causally related to carcinoma possess the skotographic power to a high degree (cholesterin gall-stone), while others are devoid of it (clay pipe, paraffin). I have endeavoured to throw some light upon the nature of the skotographic action manifested by animal tissues and certain other substances, comparing their behaviour with that of woods in which the action has been regarded as dependent upon the formation of hydrogen peroxide, and with that of recognised radio-active substance. On this point I have adduced evidence showing that the animal tissues and other substances under examination cannot, as far as their action upon a photographic plate in the dark is concerned, be grouped conclusively with the recognised radio-active substances or segregated into a class, such as that formed by the woods, and believed by Russell to affect a photographic plate in the dark by means of a purely chemical action. They occupy an intermediate position and have affinities with the woods on the one hand, and with the recognised radio-active substance on the other. Lastly, MacCormac, working in my laboratory, has shown that bacteria may be divided into groups according to their skotographic power and that the only group which acts in this way with constancy and to a marked degree is a small one which includes the pyogenetic staphylococci and the bacilli of tuberculosis and diphtheria. The bearing of these observations upon the question of carcinoma must be left for consideration in the last lecture.

LECTURE III.

THE ELECTRICAL PROPERTIES OF RECOGNISED RADIO-ACTIVE SUBSTANCES, OF NON-MALIGNANT TISSUES, OF CARCINOMATOUS MATERIAL, AND OF CERTAIN SUBSTANCES COMMONLY SUPPOSED TO BEAR A CAUSAL RELATION TO CARCINOMA.

THE researches to which I am now about to refer have been in progress for the past three and a half years nearly continuously. This length of time was necessitated partly by the importance of controlling certain of the results, but mainly by the fact that the differences between the control and the experimental conditions are so small that special care was necessary for their determination. The rate at which the electricity on charged gold leaves leaks from them is dependent upon so many factors that unless the extrinsic causes of leak are reduced to the lowest possible point small intrinsic differences are entirely lost sight of. Electroscopes in which the natural leak is greater than about one millimetre per hour are quite useless for the purpose; in the majority of the cases the charged leaves approximated over a fixed distance at a rate of about 0·6 millimetre per hour and in a large number the rate was about 0·2 millimetre per hour. It follows that the length of time necessary to obtain a single observation, whether control or experimental, is considerable; in no instance has it been possible to obtain more than one observation per day and in certain of the experiments it took two days to obtain each observation. This difficulty was obviated to some extent by using several electroscopes. As a rule, two control electroscopes (charged + and − respectively) and eight experimental electroscopes (four charged + and four charged −) were under observation.

It is unnecessary to enter here into a description of the apparatus or of the precautions taken; they are sufficiently

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[7] This calculus is preserved in the Museum of the Royal College of Surgeons of England and was kindly lent by Mr. Shattock. Owing to its unique character it was impossible to deal with it as with other specimens. Hence a flat surf[illegible] could not be placed in contact with the photographic film. Th[illegible] al skotograph was shown during the lecture, but the ma[illegible] finite, are too faint for reproduction [illegible] without re[illegible] ch is, of course, inadmissible.

[illegible] spital, 1909, vol. xv. (Eighth Cancer described elsewhere.[9] Similarly it is unnecessary, in the majority of cases, to refer to the actual experiments. It will suffice to state that the object of the research was to determine whether the leak of a fully-earthed lead electroscope differed according as it did not contain or contained one of the substances under investigation.

The substances examined were liver, kidney, lung, and spleen (four specimens of each) from non-malignant cases, four specimens of hepatic substance from livers the seat of carcinomatous metastasis, four specimens of the inorganic constituents [illegible] cases, four specimens of [illegible] from cases of carcinoma, [illegible] as the seat of secondary growth, and 12 specimens of carcinoma. Of substances supposed to be causally related to carcinoma the following have been examined electrically: three samples of clay pipe, each sample consisting of portions of three distinct [illegible] of paraffin wax, three samples of areca nut, and one sample each of metallic arsenic, arsenious oxide, and coal. In addition to the above, experiments have been carried out in connexion with the recognised radio-active substances uranium, thorium, and pitchblende, in order to throw light, if possible, upon certain unexpected electrical phenomena.

In the case of the carcinomatous material diagnosis was always made microscopically. Four cases were primary (cervix, cervix, tongue, and breast) and eight metastatic. Of the latter, six came from the liver, the sites of the primary growth being rectum (three cases), breast (two cases), stomach (one case); the remaining two were pulmonary metastases from cases of mammary carcinoma. The substances were introduced into the electroscopes in the dried powdered state to which they had been reduced for skotographic examination.

Results of experiments.—In the case of carcinoma material which has been extracted with water and subsequently with ether, or has been extracted once and for all with acetone, there is strong evidence that the leak of the electroscope is accelerated, and that, whether the charge on the leaves be + or −. Similarly, there is evidence that the inorganic constituents of bone, whether taken from non-malignant or from carcinomatous cases, accelerate electroscopic leak, whether the charge on the leaves be + or −. And thirdly, clay pipe, and possibly one sample of soot, acted in an identical manner.

So far, therefore, there is evidence to satisfy the physicist that the substances mentioned above are "radio-active" in the physico-chemical sense of the term. But already difficulties have arisen, for whereas the carcinomatous material produces skotographic effects when it has been extracted with water alone or with ether alone, it fails to do so when it has been extracted with both, or with acetone, while the inorganic constituents of bone and the clay pipe are equally non-skotographic.

The difficulty becomes much greater, however, when it is f[illegible] accelerating [illegible] *be + or —.* I make this statement with a full sense of the [illegible] physicist [illegible] ctivity," [illegible] eoretical [illegible] d radio- [illegible] smaller [illegible] elements with high atomic weight from elements with lower atomic weight. But I have carried out the experiments with the utmost care of which I am capable and have found evidence of anti-radio-activity a *sufficient* number of times to be convinced of the accuracy of my observations. Moreover, as the following experiments will show, I believe that evidence of anti-radio-activity may be obtained by the use of recognised radio-active substances themselves.

If an aluminium disc be kept in close proximity, but not in contact, with uranium or thorium or pitchblende for 48 hours under fully earthed conditions, and its influence upon electroscopic leak after such exposure be compared with its influence before exposure, it will be found, I believe, that the rate of leak has become retarded. This retardation persists for many days and is independent of the sign of the electricity with which the leaves are charged. Full details of the experiments are given elsewhere;[10] it will suffice to give here a summary of the results obtained in an experiment lasting over four months and carried out in order to re-investigate the question owing to the adverse criticism to which the first set of experiments had been exposed. This second experiment completely confirmed the first.

Experiments showing that an Aluminium Disc which has been kept in proximity to a recognised Radio-active Substance has acquired Retarding or Anti-radio-active Properties on Electroscopic Leak. The Values are the Mean Differences between the Experimental and the Control Electroscopes.[11]

I. Electroscope in which was examined the aluminium disc placed in proximity to uranium nitrate.

Control period.	Blank experiment.	Actual experiment.
− 25 mm.	− 25 mm.	− 27 mm. (29 observations for retardation to 10 for acceleration.)

II. Electroscope in which was examined the aluminium disc placed in proximity to uranium oxide.

Control period.	Blank experiment.	Actual experiment.
+ 86 mm.	+ 85·5 mm.	+ 82 mm. (36 observations for retardation to 9 for acceleration.)

III. Electroscope in which was examined the aluminium disc placed in proximity to pitchblende.

Control period.	Blank experiment.	Actual experiment.
− 18 mm.	− 21·5 mm.	− 26 mm. (44 observations for retardation to 2 for acceleration.)

IV. Electroscope in which was examined the aluminium disc placed in proximity to thoria.

Control period.	Blank experiment.	Actual experiment.
− 31 mm.	− 34 mm.	− 38·5 mm. (37 observations for retardation to 9 for acceleration.)

Note.—In the case of thoria the observed acceleration occurred on the first four days of each of the two parts of which the actual experiment consisted and was evidence of the well known "induced radio activity" due to thorium.

The following experiment shows that a similar retarding property is conferred [illegible] disc that has been placed in proximity [illegible]

V. Electroscope in which was examined the aluminium disc placed in proximity to a cholesterin gall-stone.

Control period.	Blank experiment.	Actual experiment.
− 3 mm.	− 4 mm.	− 8 mm. (41 observations for retardation to 5 for acceleration.)

Returning now to a consideration of carcinomatous material itself, it appears that the electrical properties differ according as the substance has or has not been extracted before its influence upon electroscopic leak is determined. Moreover, the extract exerts a definite influence upon the leak and that influence is in the opposite direction to that exerted by the extracted substance. This is shown by the following table condensed from one given by me elsewhere.[12]

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[9] [illegible] Cancer Report).

[10] Loc. cit.

[11] Cf. Archives of Middlesex Hospital, vol. xv., 8th Cancer Report, 1909, p. 145.

Table showing the Influence upon Electroscopic Leak of Four Specimens of Carcinomatous Material Before and After Extraction, and of the Extracts Themselves.

—	I.		II.		III.		IV.	
Charge on gold leaves	−	+	−	+	−	+	−	+
Carcinoma, dried and powdered ...	A	A	R?	O	A	O	A	O
Above after extraction with ether...	A	A	R	A	A	A	A	A
Above after extraction with ether and subsequent extraction with water	A	A	A	A	A	A	A	A
Ethereal extract of above	R	R	R	R	R	R	R	R
Watery extract of above after its extraction with ether	R	R	A?	R	A	R	R	R

"A" is used to signify acceleration; "R," retardation; and "O," zero.

The manner in which the uncertain influence upon electroscopic leak exerted by the substance when simply dried and powdered gives place to an increasing evidence for an accelerating power after each extraction, the powerfully retarding character of the first extract and the less powerful but still distinctly retarding character of the second afford a chain of evidence, not only for the existence of "anti-radio-activity" but also for the presence of both forces in carcinoma tissue, that cannot lightly be dismissed. So far as concerns the accelerating influence of carcinoma material after extraction, the conclusion given above is supported by the results of examining electroscopically eight other specimens extracted with acetone.

While carcinoma tissue after extraction accelerates the leak, this is not the case with liver or lung from non-malignant cases. These extracted tissues were found uniformly to retard leak. The acetone extract of non-malignant liver, however, agreed with that from carcinoma tissue in retarding leak, and the unextracted tissue showed a less tendency to induce retardation than the extracted. Below are given the results obtained with four specimens of liver from non-malignant cases.

Table showing the Influence upon Electroscopic Leak of Four Specimens of Liver from Non-malignant Cases Before and After Extraction and of the Extracts Themselves.

—	I.		II.		III.		IV.	
Charge on gold-leaves	−	+	−	+	−	+	−	+
Liver, dried and powdered	A	R	R?	R	R	R	R	R
Above after extraction with acetone	R	R	R	R	R	R	R	R
Acetone extract	R	R	R	R	R	R	A	A?

"A" signifies acceleration, "R," retardation

In the first lecture evidence was given to show that the skotographic action of an organ which is the seat of carcinomatous metastasis differs from normal. Examination of four specimens of hepatic tissue from livers the seat of carcinomatous metastasis shows that the new growth also influences the electrical properties. Thus in the table immediately preceding, the evidence for retardation exerted by the four specimens of acetone-extracted liver (each of which retarded the leak whether the sign on the leaves was − or +) consisted of 76 individual observations of retardation to four of acceleration. In the case of hepatic substance from livers the seat of carcinomatous metastasis, not only did two of the specimens show discordant results affording evidence of acceleration in the electroscope charged with one sign and retardation in the electroscope charged with the other, but the total number of individual observations in favour of retardation was only 52, against 28 in favour of acceleration.

Comparison of the results obtained with the inorganic constituents of bones from non-malignant and those from malignant cases affords confirmatory evidence of the influence of carcinoma upon the electrical properties of the tissues, but here the natural influence of the inorganic constituents appears to be accelerative, and in carcinoma the tendency is increased. Thus two out of four samples of inorganic constituents of bone from non-malignant cases afforded discordant results showing acceleration in the electroscope charged with one sign and retardation in the other, while the total number of individual observations in favour of acceleration was 41 against 29 for retardation, whereas when derived from cases of carcinoma the discordancy was somewhat less and the total number of individual observations in favour of acceleration was 53, against 27 for retardation.

Leaving on one side the evidence afforded by electrical examination of kidney and spleen on the ground that the results are not sufficiently clear to allow of deductions being drawn, I pass to the consideration of substances commonly supposed to be causally related to carcinoma. In this part of the subject the evidence that I have to offer is of different value in different cases. Electrical examination of clay pipe, of paraffin wax, and of cholesterin gall-stone has been carried out on so many occasions that I have more confidence in the case of these substances than in that of others of which the electroscopic examinations are clearly too few. Here I can only beg your indulgence and plead the motto of our College as an excuse (ὁ βίος βραχὺς ἡ δε τέχνη μακρή).

I have already stated that I find evidence that clay pipes exert an accelerating influence upon electroscopic leak, whether the gold leaves be charged − or +. In the case of paraffin and cholesterin gall-stone the evidence is no less clear, but both substances exert a retarding influence; and, again, whether the electrical charge on the leaves be − or +. Experiments with different samples of pitch seem to show, on the whole, that this substance exerts a retarding influence, but there is no reason to suppose that a uniform effect would be produced by all samples of this or of any other substance of an impure or complex nature. The same criticism holds good in the case of soot, one sample of which yielded me evidence of retardation, while the other gave uncertain results. Metallic arsenic, arsenious oxide, and areca nut appeared to be without effect upon electroscopic leak, but too few experiments were made with them to allow me to speak with confidence.

In my experiments with the substances mentioned above—some of the earliest made in the entire research—I sought to show that the accelerating or retarding property was manifested even though the substance under examination were covered with an aluminium cap. In numerous instances this appeared to be the case, and undoubtedly, if true, it would afford convincing proof of the similarity of the action of the substances with that of recognised radio-active substances. But owing to the fact that I have found an aluminium disc to become electrically modified by the proximity of a recognised radio-active substance or of a pure cholesterin gall-stone, my conclusions on this point require reconsideration. It may be added, however, that even if the influence from the substances did not traverse the aluminium it would not disprove the possibility of their being essentially "radio-active," since conceivably they might only give off α particles, or α particles and β radiations of so low a penetrating power that they failed to traverse the aluminium screen.

Having described in brief the electrical effects of the various substances that particularly interest us from a medical point of view, it is now necessary to revert to the recognised radio-active substances.

I have already said that I have reason to believe that recognised radio-active substances induce "anti-radio-activity" in an aluminium disc with which they have been placed in proximity, though not in contact, for a certain length of time. This change, I believe, is indicated by the acquisition of a retarding power by the disc on electroscopic leak. But there is no doubt that a metallic surface that has been bombarded by radio-active rays manifests physical change of a gross kind. Thus, the anticathode of an x ray tube not infrequently becomes perforated in course of time; an aluminium disc which has been exposed to radium for four months shows actual pits on its surface; while an aluminium disc exposed to the relatively feeble radio-activity of uranium for four months shows a loss of polish of its surface over an area corresponding to that which had been in proximity to the uranium. In the last lecture it will be shown that animal cells in like manner afford evidence of altered behaviour as the result of proximity to recognised radio-active substances.

This brings us to a consideration of *extreme* importance. There is no doubt that the facts and the conclusions of the chemist and physicist cannot be applied to biological problems in a crude manner. It is unnecessary to labour this point. It is supported by the whole of chemical physiology and pathology, from so simple an e: fact that iron in combination with globulin i hæmoglobin fails to give the ordinary chemical tests for inorganic iron to the complicated problems of immunity which have shown repeatedly that the animal body is not a mere test tube in which a simple chemical process is taking place. In a word, for the biologist a necessary preliminary to a consideration of radio-activity as understood by the chemist and physicist is a determination whether the radio-active element when in combination with protein behaves in the same way as it does when in combination with other elements to form an "inorganic" compound. It is in the latter form alone that it has been examined by chemist and physicist.

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[12] Ibid., p. 127.

Even if a series of inorganic compounds of a radio-active element be examined it will be found that the radio-activity as measured by the rate of leak of an electroscope is not identical for all of them. Thus Colwell and I have shown that the rate of leak of an electroscope in which are examined a number of uranates of the alkalies and alkaline earths as well as the nitrate and sulphates of uranium varies inversely as the atomic weight and the valency of the elements with which the uranium is linked. From this we argued that uranium in combination with the huge protein molecule would show a correspondingly enormous diminution of its influence on electroscopic leak.[13] This proved to be the case. We showed, further, that the radio-activity of the uranium is not lost, but only masked, for the ash of an incinerated albuminous compound of uranium or of such inorganic compounds as the nitrate and sulphates of uranium or ammonium uranate (which are more or less completely disintegrated on incineration with the formation of an ash consisting chiefly or entirely of an oxide of uranium) produces a profound acceleration of leak. Similar results were obtained with the nitrate and sulphate of thorium and a thorium albuminous compound. Full details will be found in the original paper. Below are given examples in illustration of the statements made above:—

Mean Values of Electroscopic Leak in the Presence of Certain Uranium and Thorium Compounds in the Natural State and After Incineration.

—	Mean rate of leak per hour in millimetres.	
	Natural state.	Incinerated.
Black uranium oxide	175	177
Ammonium uranate	125	171
Thallium uranate	101	114
Uranyl sulphate	91	177
Uranyl nitrate	80	187
Uranous sulphate	62	159
Uranium-Witte peptone	22 4	126
Uranium serum (pleural fluid) ..	13 5	85
Uranium-egg-white	13	95
Uranium-spleen-pulp	10 9	53 6
Thorium sulphate	62	124
Thorium nitrate	55	142
Thorium egg-white	7 5	41 4

Natural leak of empty electroscope 3 6 millimetres per hour.

Now the uranium and thorium albuminous compounds contained about 10 per cent. of the radio-active element by weight, and it has a ... effect is small and ... they be allowed to ... air, while at least the thorium compound fails to affect the film through a screen so thin as that formed by brushing egg-white over tissue paper. Evidence of radio-activity in the physical sense is, therefore, reduced to a very low point, and it is easily conceivable that with smaller percentages of the radio-active element, or in combination with still larger molecules or combinations of molecules, all evidence of "radio-activity" should be lost, although the fact that the substance in question contains the recognised radio-active element would be immediately demonstrable on removing the impeding constituents of the compound by incineration.

Proceeding on these lines, I have incinerated animal chemists, but without success. Clearly the tissues contain no radio-active substance which can survive exposure to a white heat. Whether they contain a radio active substance that can withstand a temperature of 300° C., after which skotographic action disappears, but is dissipated or disintegrated between 300° C. and the temperature of white heat, it is impossible to say. In any case experiments with albuminous compounds of recognised radio active substances, such as uranium and thorium, indicate that small evidence of radio-activity manifested by an animal tissue does not necessarily mean that that tissue contains only a small amount of a radio-active element. The smallness of the evidence may simply depend upon the relative completeness with which the radio-activity is masked by the albuminous molecules with which the radio-active element is in combination.

By comparing the rates of electroscopic leak when the substance is directly exposed to the charged leaves and when it is separated from them by a screen of thin aluminium foil it is possible to separate that portion of the leak which is due to the impact of α particles from that portion due to β and γ rays. As is shown by the following table, the masked radio-activity consists chiefly, if not entirely, of α particles. In the case of thorium compounds the table is of particular importance, inasmuch as it not only shows the great increase of leak due to α particles after incineration but also an enormous disappearance of some radio-active element producing β and γ rays during incineration. It is necessary to add that the amount of radio-activity that is removed from thorium compounds by incineration varies considerably under a number of circumstances that need not be mentioned here, but that all the thorium compounds given in the table were prepared from a single sample of thorium and are comparable amongst themselves, though not with those given in the preceding table.

Portions of the Rate of Leak per Hour occasioned by Certain Uranium and Thorium Compounds due to α Particles and to β + γ Radiations.

—	Natural state.		Incinerated	
	α particles	β + γ rays	α particles	β + γ rays.
Black uranium oxide	145 8	29 2	144 0	33 0
Ammonium uranate	101·2	23 8	145 5	25 5
Thallium uranate ..	79 4	21 6	82 6	21·4
Uranyl sulphate ...	57 0	35 0	142 8	37 2
Uranyl nitrate ..	52 4	27 6	151 9	35 1
Uranous sulphate ...	52 8	11 2	127·0	11 0
Uranium egg white	4 8*	0 6*	124·0	1 8*
Thorium sulphate ..	24 1	77 9	78 4	27 5
Thorium nitrate ...	21 7	70 6	127 8	16 2
Thorium hydroxide	104 0	496·0	123 0	22 0
Thorium egg white	3 1*	1 4*	46 5	7 8*

... leak has been

As to the work done and the changes produced within the molecule by the imprisoned α particles it is only possible ... Evidence has been given that ... ency to accelerate electro- ... conditions of the tissue in ... that the bombardment with ... minium disc in proximity with a recognised radio-active substance may lead to that "anti-radio-activity" of the disc which I have described.

LECTURE IV.

INFLUENCE OF RECOGNISED RADIO-ACTIVITY AND OF NON-MALIGNANT MATERIAL UPON THE DIVISION OF ANIMAL CELLS. SUMMARY OF RESULTS. THE RELATION OF RADIO-ACTIVITY TO CARCINOMA.

Hitherto the experiments which I have described have been of a chemical or a physical nature; the next step, and the last I am at the present time in a position to make, will be into the animal kingdom. Whatever the results we may have obtained, their sole importance to us as biologists, and even more as medical men, lies in any application they may have to the processes going on in the animal cell. If radio-activity, if the peculiar skotographic and electrical properties we have now found to be associated with a number of substances, some of which are derived from the animal body, influence cell-nutrition, cell-growth, cell-multiplication, they are of interest to us; if not, we may leave them on one side.

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[13] Ibid., p. 156.

The cell which I have chosen for this part of the research is the ovum of ascaris megalocephala, an intestinal entozoon of the horse. When removed from the oviduct the ovum shows a thick cell membrane, a single undivided cell, and a general absence of pigment or food-stuffs. Since it is obtainable in enormous numbers, is clearly visible with a half-inch objective, and passes through the changes up to the formation of a complete living and moving embryo worm within a few days or a few weeks according to the temperature at which development is allowed to proceed, it is very suitable to our purpose. Examination of the development of the ovum when it has been exposed to the influence of recognised radio-activity has been carried out in the case of x rays, radium, thorium, and uranium.[14] The results agree remarkably, not only in their general direction, but also in the fact that certain special effects are produced by the two most potent members of the group, radium and x rays.

The experiments consisted in determining the rates of division of the cells under conditions that differed only in respect of their exposure or non-exposure to radio-activity. In the case of x rays, exposure lasted varying times from two minutes to 20 minutes, and the ova were exposed to the rays at the commencement of the experiment when they were all in the one-cell stage. In the case of radium, thorium, and uranium the ova were exposed to the action of the substance during the whole time of their development. Inasmuch as x rays are γ rays alone, while radium, thorium, and uranium give off α particles as well as β and γ rays, the experiments differed in this respect. Moreover, since the radium, thorium, and uranium were exposed to the ova without any intervening substance except a thin layer of air, the cells were acted on by all three constituents of radio-activity in the case of these substances. Below are given the results of an experiment using x rays:—

Characters of Cell Division in 200 Ova after Exposure to X Rays for Varying Periods.

Immediately after Exposure.
All cells in 1-cell stage.

24 Hours after Exposure (Room Temperature).

—	1 cell stage.	2 cell stage.
Control	158	43
2 minutes' exposure	140	60
4 ,, ,, ...	151	49
6 ,, ,, ...	164	36
9 ,, ,, ...	175	25
12 ,, ,, ...	184	16
15 ,, ,, ...	187	13
20 ,, ,, ...	194	6

48 Hours after Exposure (Room Temperature).

—	1 cell stage.	2-cell stage.	3 cell stage	4-cell stage.
Control	74	65	26	35
2 minutes' exposure	71	52	22	55
4 ,, ,, ...	81	42	21	56
6 ,, ,, ...	90	46	20	44
9 ,, ,, ...	107	53	21	19
12 ,, ,, ...	104	60	15	21
15 ,, ,, ...	128	43	14	15
20 ,, ,, ...	126	57	13	14

This experiment, which has been repeated on many occasions with similar results, shows conclusively that x rays have a dual effect. Short exposures accelerate, long exposures retard cell division.

Since the ovum does not increase in size during development it becomes impossible to conduct the experiment satisfactorily during the period between the 4-cell stage and the early embryo, but with the formation of the embryo the accelerating and the retarding influences of the x rays again become manifest. Thus the ova concerning which details have been given above were transferred to the incubator at 37° C. during the third and fourth days after exposure to x rays, and it was then found that the control specimen showed immature embryos and one living and moving worm; the 2-minute and 4-minute specimens were indistinguishable from the control and also showed one living and moving worm apiece. But in the 6-minute specimen there were three living worms, in the 9-minute specimen six, in the 12-minute specimen one, in the 15-minute specimen two, and in the 20-minute specimen there were 21 living and moving worms. Here we have evidence of accelerated development. Evidence of the antagonistic influence of the rays on the same specimens of ova was obtained by keeping them in the incubator for a further period of three days, by which time development has proceeded to its furthest extent within the egg case. Below are given the final results:—

—	Complete development.	Failure of development.
Control	193	7
2 minutes' exposure	193	7
4 ,, ,, ...	169	31
6 ,, ,, ...	166	34
9 ,, ,, ...	165	35
12 ,, ,, ...	174	26
15 ,, ,, ...	157	43
20 ,, ,, ...	133	67

Movement and Absence of Movement in 50 Completely Developed Embryos.

—	Living and moving.	Motionless.
Control	45	5
20 minutes' exposure	30	20

The antagonistic influence of x rays upon the development of the ova of ascaris megalocephala has already been described by Perthes,[15] and Bonney and I fully confirm his results both with regard to the main proposition and with regard to the observation that though division of the cells may go on for a certain length of time exposure to x rays in large doses leads to the formation of monstrosities and abortive embryos. Perthes, however, failed to recognise an accelerating influence. Working with the root-tips of plants, Cattley[16] has obtained results similar to those of Bonney and myself both as regards acceleration and as regards retardation of cell division, but he found no evidence of gross pathological change at any time.

Exposure of ova to radium leads to results practically identical with those following exposure to x rays. For the first 24 hours of the experiment division occurs more rapidly in the cells exposed to radium than in the control, but from that time forward division in the control comes to the front, and at the conclusion of the experiment the control contains a larger number of living and moving worms than the sample exposed to radium. Nevertheless, as in the x-ray experiment, the first fully developed and living worms are met with not in the control but in the irradiated specimen. Finally, the specimen exposed to radium shows ova in all stages of development, in some of which the division appears to have proceeded on normal lines previous to its arrest, while in many it has been irregular, as shown by abnormality of the number of cells to which division has given rise, and a wide irregularity in size of the daughter cells. (Fig. 14.)

As might be expected, exposure of ova to uranium or thorium leads to less marked results than exposure to x rays or radium. In particular there is no evidence of the production of monstrosities, nor is there any recognisable difference in the number of ova that arrive at the formation of living worms. On the other hand, acceleration of division in the early stages and retardation in the later are shown with clearness. *The following experiment illustrates these* points:—

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[14] Lazarus-Barlow and Bonney: Archives of the Middlesex Hospital, vol. xv., 1909, Eighth Cancer Report, p. 147.

[15] Wiener klinische Wochenschrift, 1903, pp. 668 and 715.

[16] Journal of Pathology and Bacteriology, vol. xiii., 1909, p. 380.

Experiment showing the Influence of Exposure to Thoria or Uranium Oxide upon Cell Division in the Ova of Ascaris Megalocephala.

29/9/08. All ova in 1-cell stage.

30/9/08.

	1-cell stage.	2 cell stage.
Control	157	43
Thoria exposed	136	64
Uranium-exposed	141	59

1/10/08.

	1-cell stage	2 cell stage.	4 cell stage (and over).
Control	0	17	183
Thoria-exposed	4	21	175
Uranium-exposed	3	10	187

2/10/08. Control. All cells in morula stage.

Thoria-exposed. Uranium-exposed.	All cells in morula stage, but the morula appears to be composed of fewer cells than in the control.

3/10/08 to 7/10/08. No perceptible changes in any of the specimens.

8/10/08.

	Living embryos.	Incomplete embryos.
Control	115	85
Thoria exposed	42	158
Uranium-exposed	81	119

11/10/08. All specimens consisted of fully-developed living worms.

Examination into the effect upon cell division of exposure of the ova to other substances (a layer of air intervening) is being carried out at the present time in my laboratory by Somerville Hastings and myself. In a preliminary communication[17] we record the results of experiments with materials of *importance in connexion with the subject now* under discussion. Thus we have examined the effect of exposing ova to various extracts of tissues having skotographic power, and find marked evidence that the rate of development is influenced by the character of the extract in *proximity with which they are dividing. Thus the proximity* of a protein-free watery extract of sheep's liver or of ovary of herring causes the ova to pass from the one-cell stage to the two-cell stage more slowly than in the control—i.e., retards development—while a similar extract of the testis of the herring accelerates division. Quite apart from the results to which this remarkable observation may possibly give rise in the future, it is clear that the effects of these extracts, acting on the cell, as they do, through the egg case, and producing results similar to those which follow exposure of the ova to the action of x rays and radio-active substances in general, suggest that there resides in animal tissues *a force unrecognised hitherto and resembling radio-*activity in certain respects.

I have now laid before you the results which I have so far obtained in this research. I have not hesitated to occupy the greater part of the time at my disposal in this way, partly because in cancer *research there is at present more* need for practical experiment than for theoretical disquisition, and partly because the Croonian lectures afford a rare opportunity for presenting the results of a prolonged research in an orderly manner. It is right, however, that in the time remaining to me I should summarise my results, and, as far as may be, c[illegible] with carcinoma under [illegible]

The original question with which [illegible] viz., Do the physical agents which are commonly supposed to give rise to cancer (clay pipes, soot, &c.), and do samples of carcinomatous material afford evidence of the possession of radio-active properties?—*is not conclusively answered.** In certain respects they behave like the radio-active materials of the chemist or physicist, but in no single instance do they respond to all the criteria of recognised radio-activity. *Thus* I have shown that many of the substances affect a photographic plate *in the dark*, but, on the *other* hand, few can act on the plate if a screen be interposed; and even in those instances in which a positive result is obtained under these circumstances it is doubtful whether the interposed *celloidin* screen is fairly so-called. Nevertheless, it is doubtful whether the *power of acting through a screen* is a necessary criterion of radio-activity, since I have shown that albuminous compounds of recognised radio-active substances may possess a *power of acting* on the photographic plate which will not traverse an extremely thin screen, and, indeed, may be devoid of photographic powers altogether. In the latter *respect they* are comparable with clay pipe, inasmuch as neither type of substance acts on a photographic plate and both accelerate the discharge of an electroscope; in the same category comes carcinoma material which has been extracted with acetone or with water and subsequently *with ether. Possibly, too,* some specimens of spleen and of the inorganic constituents of bone are to be reckoned in the same class.

Even a greater difficulty arises in connexion with those substances which I have found to retard electroscopic leak. Such a *property is entirely* repugnant to present ideas of radio-activity. If I am correct in asserting that evidence of retardation can be obtained by the use of recognised radio-active substances (as in the case of aluminium discs, which have been placed in proximity to uranium, thorium, or pitchblende) this difficulty is overcome. It may be that the dual accelerative and retarding influence which I have found all forms of radio-activity to *exert upon the development* of the ova of ascaris megalocephala will help in determining this important question. Already this line of research is indicating that certain animal extracts having skotographic powers resembling those of radio-active substances up to a *certain point are able to influence the rate of development of* animal cells when acting on them from a distance and through the screen of their own egg-case. It is not impossible that we shall find that the laws of radio-activity as determined by the physicist require some modification when adopted *into biology* owing to *the* presence of *the* protein molecule, just as the laws of filtration and osmosis have required adjusting to the special circumstances of the case. I showed some years ago that the presence of even a minute trace of protein profoundly modifies the rate of osmosis,[18] and I showed in the last lecture that combination of a radio-active element with a protein molecule profoundly modifies the rate with which it induces electroscopic leak and its photographic powers.

Below are given in tabular form the chief photographic and electroscopic results hitherto obtained.

T[illegible] photographic plate [illegible] s electroscopic [illegible]

Rec[illegible] stances.	[illegible] m, thorium, uranium albuminate some weeks after its preparation.
Other substances of research.	No member found.

Type of properties. The substance acts on a photographic plate [illegible] *Accelerates* electroscopic leak [illegible] es be + or −. [illegible]

[illegible] stances.	
Other substances of research.	

Type of properties. The substance acts on a photographic plate directly and *also* through a screen. It *retards* electroscopic leak *whether the charge on* the gold leaves be + or −.

Recognised radio-active substances.	No member of the group found.
Other substances of research.	Solid mass of hepatic material.

Type of properties. The substance acts on a photographic plate directly, but *not* through, a screen. It *retards* electroscopic leak whether the charge on the gold leaves be + or −.

Recognised radio-active substances.	No member of the group found.
Other substances of research.	Carcinoma extract, watery or [illegible]

Type of properties. The substance has *no* photographic action whatever. It *accelerates* electroscopic leak whether the charge on the leaves *be + or −.*

Recognised radio-active substance.	Thorium (?) and certain specimens of uranium albuminates directly [illegible]
Other substances of research.	

Type of properties. The substance has *no* photographic action whatever. It *retards* electroscopic leak whether the charge on the leaves be + or −.

Substance prepared *by means of* recognised radio-active substance.	*Aluminium* discs after proximity to uranium or thorium.
Other substances *of* research.	[illegible] after proximity [illegible]

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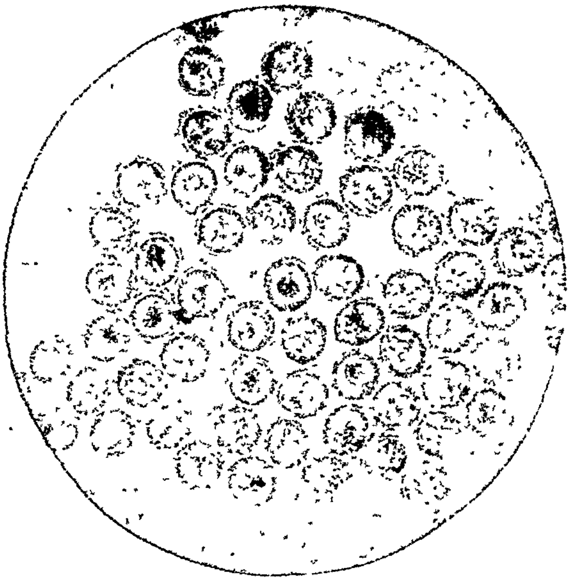
[17] Archives of the Middlesex Hospital, vol. xv., 1909, Eighth Cancer Report, p. 200.

[18] Journal of Physiology, vol. xix., 18[illegible], p. 1[illegible].

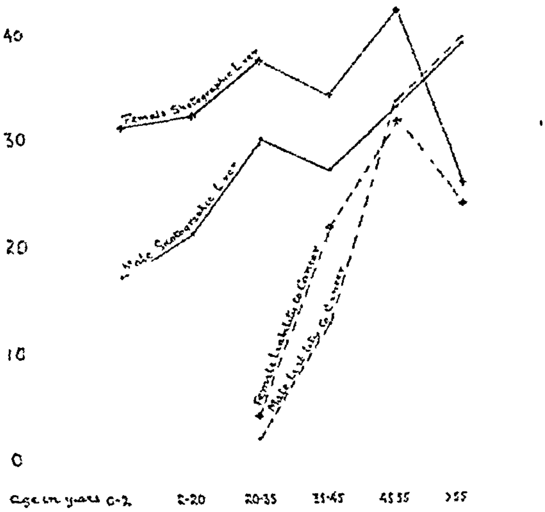
Leaving now the question whether the substances commonly supposed to be causally related to cancer and certain animal tissues, including carcinomatous material, are radio-active as unanswered, and, in our present state of knowledge, as unanswerable, we may pass to consider recognised facts in connexion with carcinoma as a disease in the light of the experimental evidence I have adduced. It is impossible for me to traverse the whole field, partly from lack of time, partly because I *should thereby* introduce too much contentious matter. I shall therefore confine myself to a few salient points, offering you something in the nature of an impressionist picture.

FIG. 14.



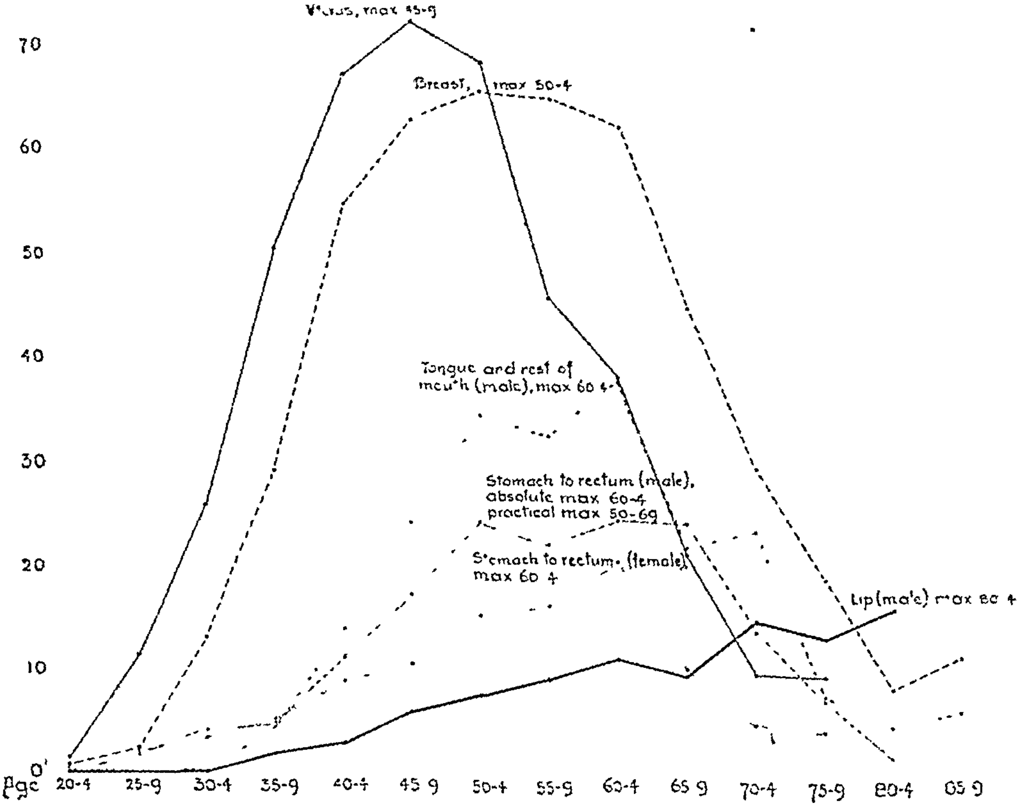
The develop
the influe
stages of d
complete

FIG. 15.



Liability to carcinoma of different sexes.

FIG. 16.



Liability to carcinoma at different age periods.

One of the most certain features of carcinoma (at all events as we meet with it in this country) is that it occurs more commonly in women than in men, and that the case-incidence, corrected by the number of persons of the sex living at various ages, in both sexes runs on parallel ascending lines up to the age of about 55 years, while after that age the lines diverge, liability to the disease continuing to increase in males, but undergoing a sharp diminution in females. It is certainly remarkable that the degree of skotographic power of the liver in the two sexes and at different age-periods affords a pair of curves, agreeing absolutely in these points with the curves of cancer liability (cf. *Fig.* 15). It is possible that the identity of the two *pairs* of curves is a coincidence, and that both cancerous and skotographic conditions may depend upon some common underlying *cause—e g., senility.* Thus, curves made for the incidence of fibrotic kidney and greyness of hair would probably run parallel courses, but no one would infer that the one bears a causal relation to the other. But when one finds that the liability of liver, kidney, lung, and spleen to primary and, in the main, to secondary growths varies directly with their skotographic power, that the liability of gall-bladder, urinary bladder, and kidney to carcinoma varies directly with the skotographic value of the calculi by which severally they are affected, that carcinomatous material possesses this skotographic power, practically without exception, and that the normal skotographic power of a tissue is modified by the presence in it of a carcinomatous mass, the idea that the two are in some way interdependent is strengthened. And when one further finds that these tissues or their extracts are capable of influencing the rate of division of animal cells, the suggestion that in them lies the key of a disease which is, after all, nothing more than a disorderly overgrowth of a particular variety of cell becomes alluring. Nor is the fact that certain of the extracts have been found to possess accelerative, while others possess retarding, powers on development a difficulty, for it is clear that for the occurrence of carcinoma it is as necessary for the subjacent tissues to undergo a diminution of their normal resisting powers to the encroachment of the epithelial cells as for these latter to undergo an increase in their normal rate of reproduction.

This brings us to the question of metastases. I have long felt that the metastases in carcinoma are not regarded in their proper light. Stripped of non-essentials, the occurrence of a metastasis simply means that a cell which is capable [illegible] which it is not killed. [illegible] carcinomatous cell is [illegible] tion, or other means [illegible] ning the occurrence or non-occurrence of a metastasis as the transported carcinoma cell. This is shown by the great variations in regard to metastasis met with even in carcinoma of a single site. We cannot believe that a fundamental difference obtains between the cells of one carcinoma of the cervix uteri and those of another, either as regard their "malignancy" or their liability to transport to the lymphatic glands, liver, &c. And yet, as a reference to statistics collected at the Middlesex Hospital will show, more than half of the necropsies on cases dying from carcinoma of the cervix reveal an entire absence of metastasis.[19] The only reasonable explanation of this fact is that carcinoma cells are disseminated through the body in all cases, but in half of them they are destroyed at the seat of their lodgment.

In what the difference between a tissue which allows a transported carcinoma cell to grow and multiply and a tissue which destroys it consists, it is impossible to say, but the different properties of tissue-extracts upon the division of the [illegible] that in them may [illegible] Nevertheless, the [illegible] a body affects the [illegible] tient, even though [illegible] indicates that an [illegible] the initial cause of the carcinoma, upon distant parts. And in this connexion one may ask whether it is not possible that those rare cases may be thus explained in which death in carcinoma cannot be attributed with fairness either to the mass of growth, septic absorption, mechanical interference with vital parts, or other similar cause. One of the most noteworthy points in connexion with carcinoma is that a mass will kill, being carcinoma, which would probably not kill if, *ceteris paribus*, it were inflammatory. It is only necessary to compare the certain death from so small a mass of disease as is often a carcinoma of the body of the uterus, with the relatively good prognosis of a far more extensive tuberculosis, actinomycosis, or tertiary syphilitic condition.

If the general liability to carcinoma in males and females be split up into its component parts and the liability to carcinoma at different sites be considered individually, certain interesting points are disclosed. This has been done for 6421 cases of cancer at the Middlesex Hospital of which details as to age are available. The cases are distributed as follows: Uterus, 2205 cases; breast, 2126 cases; alimentary tract from stomach to rectum, 470 female and 586 male cases; tongue and rest of mouth, 783 cases (male); lip, 251 cases (male). The total number of cases of each kind in each quinquennial age-period has been corrected for the number of persons (male or female as the case may be) surviving at [illegible] that ag[illegible] formed [illegible] Fig. 16.

The most striking point in the curves is that whereas all of them show a rising [illegible] creasing liability [illegible] of cancer of the [illegible] reached, after whi[illegible] more or less sudde[illegible] to cancer of a special organ does not occur at the same age as the maximum liability to cancer of another organ, nor are the ascents and descents of the different curves equally rapid or high in all cases.

There is thus a great contrast between cancer of the lip and cancer of the uterus, for example, so far as the liability of individuals to the two [illegible] difference may clearly [illegible] incidence of the cause [illegible] tissue upon which the cause is acting. So far as a difference in the tissue is concerned, there is no doubt that the maximal liability to cancer of the uterus occurs about the menopause and that it diminishes with great rapidity immediately after. But the uterine, and particularly the cervical, changes following the menopause are amongst the least marked of climacteric changes, and in any case are minute compared with the [illegible] egnancy. If, however, [illegible] nt of view of a differen[illegible] cause of the disease the matter becomes simpler.

The cervix uteri is particularly suitable for an inquiry into the etiology of carcinoma. It is a limited region; it is in the majority of cases affected by the simplest form of [illegible] while the third, laceration during childbirth, is merely a trauma more or less resembling traumata in other regions, and, once occasioned, persists throughout life. At the same time, as it is more than usually protected from outside influences, it is one of the commonest, if not actually the commonest seat of carcinoma. Of these three conditions, the two that are peculiar to the cervix are those which attract most attention when considered in relation to the age for the maximum liability to carcinoma of the cervix, partly because traumata occur in other regions, partly because a period of many years usually elapses between the last parturition and the age of maximum liability. And considering menstrual blood and seminal fluid as possibly containing the essential cause of carcinoma of the cervix, menstrual blood must be put on one side, if only for the reason that if it were the cause one would expect that vagina and vulva and body of the uterus would not show so marked an inferiority in liability to carcinoma as they undoubtedly do. This leaves the seminal fluid, and it is a remarkable fact in this connexion that the spermatozoon is the most potent instigator of cell division known when it acts upon a specific cell, the ovum, and that an extract of the testis of the herring (which consists almost entirely of spermatozoa) favours the division of the cells of the ova of ascaris megalocephala to an extraordinary extent, and at the same time possesses marked skotographic powers (Fig. 17).[20]

In the case of the breast, it appears to me that the observation of MacCormac that various bacteria possess skotographic powers is of great importance in conjunction with the fact that a greater or less degree of chronic mastitis is so commonly met with in mammary carcinoma. From this point of view mammary carcinoma may be brought into line with carcinomata arising on old cicatrices and long-standing ulcers, whether these be simple or lupoid. It is, indeed, remarkable that the only varieties of bacteria which have been fo[illegible] those which [illegible] phylococci, [illegible] ongst the animal kingdom is so much more commonly affected by carcinoma that it may be termed a pre-eminently human disease. When it is remembered that bacteria—especially pyogenetic and tuberculous bacteria—may remain latent for years; when it is remembered that the skotographic action, if not of bacteria at least of other animal substances, may persist for a period, certainly of months and probably of years, the question arises whether we shall not find the essential cause of carcinoma affecting mamma, cicatrices, old ulcers, directly connected with the bacteria underlying the primary chronic inflammatory condition. If this be so, if the bacteria introduced into the breast, possibly during some lactation period, carry with them by virtue of their skotographic power the cause of a carcinoma which develops years later, we should expect the feebly skotographic bacteria to induce carcinoma later in the individual's life than the far more powerful spermatozoa, we should expect the period of maximal liability to a carcinoma of bacterial origin to be spread over a larger range of years than one of spermatozoal origin, we should expect a later onset of diminution in liability with a carcinoma of bacterial origin than with one of spermatozoal origin, but in both cases we should expect the liability to cancer to diminish in later life. In a word, we should expect to find carcinoma of the breast and carcinoma of the cervix showing just those differences of incidence which they actually manifest.

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[19] Andriezen and Leitch: Archives of the Middlesex Hospital, Fifth Cancer Report, 1906. MacCormac: Ibid., Eighth Cancer Report, 1909.

[20] [illegible] animals from carcinoma cervicis. I suggest [illegible]

But if, in the case of the uterus, it is difficult to associate the occurrence of carcinoma with peculiarities on the part of the tissue itself, this is even more difficult in the case of carcinoma affecting that part of the alimentary tract lying between stomach and rectum. A glance at the curves of liability to cancer in these regions drawn up for males and for females shows that in males the liability is not only greater but also that it reaches a maximum some ten years earlier than in females and persists at that maximum for five years longer. We cannot consider that there is so striking a difference between male and female alimentary tissues as this would indicate in the absence of definite evidence on the point. It is easier to imagine that some factor leading to increased division of epithelial cells is more potent in males than in females during the age-period 50 to 69. It would serve no good purpose to discuss here what that factor may be, but it may be pointed out that Sir J. J. Thomson has shown that certain food-stuffs, notably wheaten flour, may be radio-active, while I have shown above that many animal substances have properties which may be radio-active, that both definitely recognised radio-active substances and extracts of animal tissues are able to accelerate cell-division in the ova of ascaris, and that, partly as a result of the greater degree to which they are occupied in arduous labour, men consume more food than women.

I have left consideration of the curves obtained for carcinoma of the lip and of the tongue and other parts of the mouth to the last because of their great dissimilarity, in spite of the similarity of the tissues concerned and of the identity of most of the conditions to which those tissues are subjected. This dissimilarity of the curves of liability to carcinoma, and particularly the fact that the liability to carcinoma of the lip undergoes no diminution in old age such as is observed in the case of carcinoma in all other sites that we have examined, is strong evidence that some fundamentally different condition obtains in the two situations. The persistency with which the old man clings to his pipe, holding it between his lips whether actually smoking or not, whether awake or dozing, as he sits in the sun or by the fireside, is as characteristic of the ages above 70 as is the toothless condition which commences to set in about 65. On the assumption that the pipe in some way is directly related to carcinoma of the lip while the teeth are in some way directly related to carcinoma of the tongue and other parts of the mouth, the curves of liability to this disease in the two situations should be exactly as we find them to be.

It may be urged that the observations I have brought forward are nothing more than evidences of that "chronic irritation" which since the time of Virchow has been held to play an important part in the causation of carcinoma. To this my answer must be that the term "chronic irritation" is meaningless and only indicates that some common factor exists in a variety of conditions that differ otherwise to the greatest extent. Is [illegible] not possible that the common factor, which must be capable [illegible] stimulating the growth of certain cells while it depresses the growth of others, which must reside in substances of the widest diversity, which must act with varying intensities in different cases though always with comparative slowness, the natural action of which must be progressive so long as it persists, should be radio-activity? The x rays cause carcinoma, they stimulate (like other radio-active substances) the growth of cells, and again they retard the growth of cells; carcinomatous material, non-carcinomatous material, extracts of animal tissues, various substances usually regarded as causally related to carcinoma, possess properties resembling those of recognised radio-active substances to a greater or less degree when considered from the physicist's point of view, and there is evidence that they possess powers of stimulating or depressing the division of animal cells. Such similarities are at least suggestive.

At the same time as radio-activity, using that term to cover the properties of other than *recognised* radio-active substances for the moment, would serve to explain a large number of the salient features of carcinoma as a disease, it would fall in line with other facts that have been made known more recently, and often afford a common ground for views that appear, at first sight, to be diametrically opposed. It would fall in line with the observations of Farmer, Walker, and Moore on the frequent occurrence of heterotypical and irregular mitoses in malignant new growths, for all observations go to show that the ova of ascaris megalocephala divide with great irregularity when they are exposed to recognised radio-activity, and the same is true when they are exposed to the influence of any of the watery extracts of animal substances that have been mentioned above. It would fall in line with the observations that there is a deficient secretion of pepsin and trypsin in carcinoma, for Colwell and others have shown that the activity of these enzymes is largely diminished when they are exposed to radio-active influence.[21] It would fall in line with the observation that the ereptic power of the tissues in carcinoma cases is not diminished more than in other chronic diseases accompanied by wasting (Colwell[22]), for exposure to radio-activity does not affect the ereptic power of a tissue-extract in the slightest degree. It would fall in line with the fact that certain varieties of carcinoma, notably those which are superficial, are curable by radio-activity, for, as is shown by the cases of diphtheria, typhoid fever, tetanus, anthrax, rabies, and other microbic diseases, the agent producing the disease is prepotent in elaborating the remedy. It would fall in line with the fact that carcinoma is primarily a disease in which a definite variety of cell—the epithelial—is concerned, for there is evidence that radio-activity has selective powers—e.g., in its action upon the specific cells of the testicle and upon the spleen. It would fall into line with the remarkable observations of Ehrlich and Apolant and of Haaland, that in mice transplantation of one type of tumour may lead, as they believe, to the origination of another type from the tissues of the host, for the cells of a carcinomatous mass are endowed with properties resembling those of recognised radio-active substances in many respects. It would fall into line with the observations of Bonney made in my laboratory and enunciated in his Hunterian lectures before the Royal College of Surgeons of England last year, that the onset of carcinoma in any part is preceded by local histological changes of a special kind but belonging to the "inflammation" phenomena.

On the other hand, it would not be opposed to a belief in "cancer houses and localities," for there is no reason why the soils of districts or the materials of which houses are built should not differ in the degree to which they are radio-active, nor why the local radio-activity should not be in certain instances so considerable that cancer arises in successive inhabitants time after time. In a sense, the electrical department of every hospital is a "cancer house." It would not be opposed either to an infective or non-infective, a contagious or non-contagious, an animal or vegetable parasitic, a parasitic or non-parasitic, a hereditary or non-hereditary view of cancer, for it would only be concerned with the question whether the inculpated agent is radio-active or not. So far as certain bacteria possessed the properties we are considering, the carcinoma associated with them might be regarded as bacterial and infective, but the bacterial and infective properties would be accidental and non-essential. So far as the agent which leads to hereditary transmission was provided with "radio-active" properties cancer would be hereditary, but the inheritance of cancer would be accidental and non-essential. Similarly it would not be mann's theory of anaplasia, to Ribbert's theory of tissue-tension, to Adami's theory of habit of growth, for it would constitute the underlying force required by each.

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[21] Archives of the Middlesex Hospital, vol. xiii., 1908, Seventh Cancer Report, p. 94.

[22] Ibid., vol. xv., 1909, Eighth Cancer Report, p. 96.

There remains the question whether by applying radio- [illegible] carcinoma. To this question [illegible] experiments have hitherto [illegible] posed rats and mice to the action of x rays, or to uranium, or to thorium for months; I have kept a glass tube containing radium in the abdominal cavity of a rabbit for months; I have exposed the ears of rabbits to x rays for prolonged periods and under different circumstances, but so far the only cases of carcinoma resulting from exposure to radio-activity are those which have occurred in the human subject. Yet t[illegible] experiments I have mentioned have not been witho[illegible] importance, for, as Rowntree[23] has shown, the chang[illegible] in the rat's tail, and even more those in the rabbi[illegible] ear resemble those in human x ray dermatitis, wh[illegible] there is in certain places a well-marked overgrowth [illegible] epithelial cells. In the case of the rabbit's ear, indeed, [illegible] finds that the epithelium on the under or indirectly expos[illegible] surface shows an irregular arrangement of the hypertrophi[illegible] epithelial cells which appears to be on the border li[illegible] between non-malignancy and malignancy. When we can determine that that border line shall be crossed one of the greatest steps towards a discovery of the cure for carcinoma will have been made.

Mr. President, I have finished. No one is more conscious than I of the deficiencies of these lectures. I can only plead for your leniency on the ground that the line of research is, to the best of my belief, new, and that it has not proved unprofitable. I am of the opinion that great developments may be expected, not only in respect of cancer, but also in respect of physiological and other pathological conditions if research on these lines be extended.

GASTRO-INTESTINAL CRISES FROM EFFUSION INTO THE BOWEL WALL.[1]

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The occurrence of unexplained hæmorrhage is more common in childhood than in adult life. Even in the earliest days of life this tendency is present. The site of the hæmorrhage is an important one in determining both the nature of the symptoms and, in many cases, the gravity of the affection. Amongst the different parts of the body which may be affected the bowel wall is of considerable importance because of the grave and alarming symptoms which may develop and the difficulties in diagnosis and treatment which may [illegible] A condition of acute abdominal [illegible] and the problem as to whether [illegible] s not called for would appear to have taxed the diagnostic powers of many. Not infrequently mistakes in diagnosis have been made, as in other forms of acute abdominal disease. In criticising some of the recorded cases it is hoped that the writer of this paper will not be regarded as assuming a superior position. Such would be untenable, for he has apparently made more mistakes in connexion with this special affection than anyone else. This is his only claim to speak on the subject.

This special type of disease is most frequently associated with the name of Henoch, who was the first to describe it clinically. Henoch's purpura is a variety of the hæmorrhagic diathesis characterised by attacks of severe abdominal pain, vomiting, and the passage of blood and mucus by the bowel. It is only because of the abdominal symptoms, on which he laid special emphasis, that it is to be distinguished from other forms of purpura hæmorrhagica. Osler[2] has described a number of such cases in a series of serous and sanguineous effusions on the ground that they manifestly proceed from the same cause, as they are found alternating in the same individual during the course of the illness. Other writers have described similar attacks as being due to angio-neurotic œdema, there being no evidence of hæmorrhage in any part of the body, but definite attacks of fleeting œdema having occurred. Clinically the abdominal symptoms may be identical, but it may often be possible to make [illegible] s history or from [illegible] body.

The [illegible] clinical and post-mortem aspects of this condition:—

Case 1.—A male child, three months old, passed a blood-stained [illegible] ly lesion found in the [illegible] stine. The last inch of [illegible] t there was an area of [illegible]

Case 2 (Mr. [illegible] case).—A [illegible] hospital with a history of violent pain [illegible] had become stercoraceous, and the [illegible] The abdomen was nearly motionless [illegible] especially in the lower part, and there was general tenderness on palpation. There was no distension, or tumour, or tenesmus. Peritonitis was diagnosed. The abdomen was opened and no evidence of gross disease was found. The greater part of the small intestine was empty, but a portion a few inches from the ileo-cæcal valve was found to be congested. The bowel here showed several small petechial hæmorrhages and some irregular patches of congestion from which [illegible] On the following day a careful search [illegible] ne small purpuric spots were [illegible] the buttocks, and on each leg. [illegible] ued and a diagnosis of Henoch's [illegible] firmed by subsequent attacks of [illegible] purpuric eruptions. Recovery [illegible]

[illegible] case).[4]—A boy, aged four years, was [illegible] abdominal pain and vomiting. The [illegible] was considered. Under chloroform [illegible]

Into the pathology of purpura hæmorrhagica and angio-neurotic œdema we need not enter here, but the pathological changes which have been found in the bowel wall during life and after death afford an explanation of the clinical symptoms. Hæmorrhage may take place into the mucous layer, the submucous layer, the muscular layer, or the peritoneal coat. It is probably only when considerable effusion has taken place into the tissues of the bowel wall generally that severe symptoms are produced. The hæmorrhage, if of sufficient extent, produces paralysis in the part of the bowel affected. On examination the bowel wall will be found to be deeply congested or hæmorrhagic in appearance. It is thickened and has a tough leathery feel. Scattered purpuric spots may be found on the peritoneal coat or in the mucous layer of the bowel. At a necropsy one may find many superficial ulcers on the internal surface due to sloughing at the [illegible] In other cases there may be [illegible] due to profuse hæmorrhage into the wall [illegible] ge areas of the mucous and submucous tissues.

The clinical symptoms in connexion with effusion into the bowel wall are vomiting, pain, and the passage of blood and mucus. Constipation is usually present, but in some cases

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[23] Archives of the Middlesex Hospital, vol. xiii., p. 183, and vol. xv., p. 192. The Lancet, March 20th, 1908, p. 821.

[1] A paper read before the Medical Section of the Royal Society of Medicine on June 22nd, 1909.

[2] American Journal of the Medical Sciences, 1895 and 1904. British Journal of Dermatology, vol. xii.

[3] British Journal of Children's Diseases, January, 19[illegible]

[4] Ibid., 1904, p. 96.

diarrhœa of a severe type is a marked symptom. In the milder cases the attacks are short but tend to recur. It is to be noted that hæmorrhage into the lumen of the bowel does not of itself produce any pain, so that the onset of pain at once suggests effusion into the bowel wall. The pain is of the nature of colic and is intermittent. It may be so severe that the patient rolls about in agony or is thrown into a state of opisthotonos. Pressure on the abdomen either with the hand or by lying on the face seems sometimes to afford relief. In the case of infants violent screaming occurs during the attacks of pain. The site of the abdominal pain varies in different cases. Abdominal tenderness is not usually present, but some cases are recorded in which it was a marked feature. Such attacks are acute enough and call for the administration of opiates, but between the spasms of pain the patient's appearance is satisfactory. Another stage is reached when the condition becomes one of intestinal obstruction, partial or complete; the whole aspect of the patient changes, and one recognises the typical appearance of acute abdominal disease. The nature and cause of the pain have been explained in various ways. If, however, one considers the nature of the pain, which is griping, spasmodic, and intermittent, and the usual accompaniment, obstinate constipation, it appears most natural to assume that there is paralysis of the affected part of the bowel with over-action and spasmodic contraction of the bowel wall above. The increased peristalsis is an attempt to overcome what is practically a local obstruction and pain results. A sudden attack of violent abdominal pain may be the first sign of illness, and may simulate very closely the onset of acute intussusception. Vomiting usually comes on at the onset of an abdominal attack or follows soon after. It may become so marked that everything swallowed is promptly rejected. Vomiting of blood may take place and is a valuable aid in the diagnosis as suggesting the hæmorrhagic nature of the abdominal lesion. Blood and mucus are usually passed per anum in hæmorrhagic cases. The amount of blood varies from a mere tingeing of the mucus to six or eight ounces. The patient may be rendered anæmic by the profuse intestinal hæmorrhage. At the same time blood is not necessarily present, even in hæmorrhagic cases, as the effusion may be confined entirely to the wall of the intestine. In cases of pure serous effusion there will not, of course, be any blood passed per anum. The abdomen is usually retracted in the early stages and milder cases, but with the increase of symptoms of obstruction it tends to become distended.

Attacks of intestinal colic, identical in all respects with those accompanied by the passage of blood, but without melæna, are not uncommon. These may be accompanied by œdematous or urticarial swellings in other parts of the body, which are evidence in favour of effusion into the bowel wall. Mr. Alexander Don[5] has recorded the case of a boy, aged 11 years, who was seized with sickness, vomiting, and abdominal pain. There was no melæna, but there was a purpuric rash, and œdematous circumscribed swellings appeared over the back, the thigh and leg, the back of the hand, and the dorsum of the foot. Osler, in discussing the visceral manifestations of the erythema group of skin diseases, says that the colic is probably due to localised œdema of the intestinal wall. Dr. Harrington has had an opportunity of seeing this localised œdema in a case where laparotomy was performed for suspected gall-stones.

CASE 4. (Dr Harrington's case).[6]—A young woman, aged 26 years, presented symptoms of gall stones for which laparotomy was performed. The intestines were engorged with blood and so red that a mild peritonitis was at first suspected There were no hæmorrhagic areas in the intestinal walls, but at a point within a short distance of the ileo cæcal valve a cylindrical enlargement of the ileum 2½ inches long was seen, entirely surrounding the bowel and increasing its circumference to twice the ordinary size The swelling was evidently in the bowel wall, elastic to touch, and did not pit upon pressure. No other lesion was found She had a comfortable convalescence This patient had had many previous attacks of angio neurotic œdema affecting the face, hands, and feet, accompanied at times with abdominal pain.

There would appear to be a special site of election for this form of intestinal hæmorrhage—namely, the ileo-cæcal region. Out of 20 cases in this paper in which the site of hæmorrhage was determined either during life or post mortem, the effusion was marked in the ileo-cæcal region in 15 cases. The lower end of the ileum, the cæcum, and more rarely the appendix are the parts affected. It is difficult to explain the special tendency to the effusion in these parts, although the stagnation of the bowel contents about the cæcum may be a cause of local irritation and congestion. The presence of the ileo-cæcal valve may also explain the early development of symptoms of acute obstruction, as effusion and swelling in this narrowed part of the bowel will produce more disturbance than in other parts of the intestine. Certainly the clinical fact remains that in recorded cases a preponderating number show the affection specially marked in this region. It is also a well-known fact that over 70 per cent. of cases of intussusception in infants occur in the ileo-cæcal region. May it not be possible that the sudden effusion of serum or blood in the ileo cæcal region is often the unsuspected cause of an intussusception? Illustrations of the involvement of the ileo-cæcal region in intestinal effusion are supplied in the cases here recorded. The following two cases show that the vermiform appendix alone may be involved.

CASE 5 (Dr. Jacobson's case).[7]—A woman, aged 37 years, had suffered for three days from severe pains in the right side of the abdomen. When first seen the abdominal pain was very severe and tenderness was marked over the site of the appendix. She complained also of pain in the region of the gall bladder, and located a third painful point to the right of the umbilicus. On opening the abdomen the bleeding was very profuse The appendix was five inches long and presented a very red appearance. Later, upon section, it was found to present numerous areas of hæmorrhage into its substance. There was no free bleeding into the cavity of the appendix, which was distended by a mucoid discharge. The hæmorrhage was entirely interstitial. Four days after operation the patient developed a hacking cough and brought up a quantity of bright red blood. This was followed by profuse nasal hæmorrhage, and next day by an outbreak of purpura on the skin. Petechiæ appeared on the left leg above the head of the fibula and on the abdomen, while on the calves numerous ecchymoses were found At the sites of hypodermic injection free bleeding occurred. There was never any hæmatemesis or melæna. The patient eventually made a good recovery after a somewhat prolonged attack of purpura hæmorrhagica.

For the following case I am indebted to the kindness of Mr. Arthur Edmunds who has not yet published it.

CASE 6 (Mr. Arthur Edmund's case)—A boy, aged three years, was suddenly seized with acute abdominal pain and vomiting while at dinner. For the previous ten days he had had occasional attacks of "stomach ache." The vomiting was repeated six times during the day and blood was passed per anum on three occasions. On admission the same night an indefinite swelling, cylindrical in shape, was felt half way between the umbilicus and ensiform cartilage Intussusception was diagnosed and the abdomen was opened. No tumour was found, but on examining the cæcal region the appendix was found to be hæmorrhagic and was removed. The boy made a good recovery without further symptoms. On examination of the appendix the wall was found to be swollen and infiltrated with blood, involving the submucous layers, the follicles, and the muscular layers No other lesion was present.

A diagnosis of intussusception is very readily made in cases of intestinal effusion. The resemblance of the two affections may be so striking that on reading the recorded cases I am still unable to find any one point which will serve to distinguish them. The difficulty is specially marked when the intestinal effusion attacks a healthy child, produces obstructive symptoms, and is not accompanied by any effusion or hæmorrhage in other parts of the body. The following cases illustrate the difficulty in diagnosis between intussusception and effusion into the bowel wall.

CASE 7.—A male infant, aged eight months, was admitted to hospital after three days' illness characterised by vomiting, constipation (complete save for the passage of some blood and mucus), and great thirst. Vomiting had become almost continuous and abdominal distension had been increasing The abdomen was distended and resonant and nothing abnormal could be detected on palpation, combined with rectal examination A soap-and water enema was given without any result save a little blood stained mucus Crying as if from pain was present and there was a marked abdominal facies Another enema was followed by the passage of some fæcal matter, blood, and mucus The abdomen was opened and some free fluid escaped. The small intestines were distended generally. There was no intussusception or peritonitis, but the last few inches of the small intestine were deeply congested and hæmorrhagic in appearance. Above this area were some smaller patches of hæmorrhage in the bowel wall. The abdomen was closed. The symptoms of obstruction were not relieved and vomiting again recurred A very small amount of fæcal matter was passed The child sank gradually and died two days later The necropsy revealed a dark, almost black, mass in the right iliac region, which proved to be the cæcum with its walls greatly thickened by an effusion of blood. The lumen was almost entirely occluded. The mucous surface of the cæcum was of a uniform deep purple colour, and a similar appearance was present in patches in the first six inches of the colon Here the hæmorrhages were of a purpuric character.

CASE 8—A boy, aged five years, was seized with severe abdominal pain and vomiting, which continued intermittently for four days and then ceased Two days later the same symptoms recurred with greater severity and persistence The bowels had acted irregularly until the day before admission, when the motions were at first blood stained, and later only pure blood in large amount was passed. The boy looked ill

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[5] Practitioner, June, 1908.

[6] Boston Medical and Surgical Journal, 1905, vol clii.

[7] New York Medical Record, 1903, vol. i.

and was sul [illegible]
which he r [illegible]
abdomen was extremely distended and resistant so that an examination was impossible without an anæsthetic. Under chloroform nothing further was discovered. The rectum was empty save for some blood-stained fluid. No fæcal matter had been passed for some days. A diagnosis of intestinal obstruction, probably [illegible] and the abdomen was opened. [illegible] a part of the bowel about five inches [illegible]

[illegible]

CASE 9 (Mr. Greig's case).[8]—A boy, aged nine years, had an attack of [illegible] tenesmus being present. A few purpuric spots were present on the legs. Intussusception was diagnosed. [illegible] chloroform a small, firm, resistant tumour was felt in the righ[illegible] region, below and to the right of the umbilicus, freely moveabl[illegible] slipping about on manipulation. [illegible] was easily delivered, and was fou[illegible] [illegible] On the following [illegible] d the left eye also [illegible] to hæmorrhagic. Purpuric spots [illegible] He made a good recovery, and

[illegible]

[illegible] a mass of blood-clot surrounding the bowel, perhaps in the wall of the bowel."

CASE 11 (Dr. J. Porter Parkinson's case[10]).—Male child, aged five years, admitted with history of four days' illness characterised by severe abdominal pain, vomiting, and melæna. [illegible] measly non-purpuri[illegible] On the following d[illegible] and great [illegible] per stool. [illegible] ted and abdomen opened. [illegible] the colon, congest[illegible] peritoneal hæmor[illegible] ing continued, on [illegible] appeared over the [illegible] necropsy general [illegible] intestine 13 extr[illegible] peas, and project[illegible] About a foot fro[illegible] hæmorrhages. D[illegible] splenic flexure. [illegible] hæmorrhage into [illegible] the middle of th[illegible] collapsed and co[illegible] hæmorrhagic infarcts in the lungs.

In a recent paper Mr. Hugh Lett lays stress on the presence of a tumour as distinguishing intussusception from this affection. But even a tumour closely simulating invaginated bowel may be present, as in Mr. Greig's and Dr. Still's cases. Tenesmus, opisthotonos, and all the rarer signs of intussusception may be present in cases of hæmorrhage into the bowel wall, so that at present we do not seem to possess any reliable means of distinguishing the two affections. They present themselves as cases of intestinal obstruction, and each one must be considered in the light of all the symptoms present. Some surgeons say the indication clearly is to open the abdomen and settle by inspection. This is probably the best course to pursue in cases where a differential diagnosis is otherwise impossible, where the signs of obstruction are urgent, and where there [illegible] tendency. In the [illegible] owing to the risk of [illegible] sloughing.

The diagnosis between intussusception and intestinal effusion is further complicated by the fact that invagination may take place as the result of effusion into the bowel wall. The occurrence of intussusception may be an early or a late complication in the course of an illness characterised by [illegible] recognised and ignorance of it may lead to the overlooking of a very serious complication in this form of hæmorrhagic trouble. The following cases illustrate the occurrence of [illegible]

[illegible] vomiting and constipation. [illegible] and brought away some hard [illegible] vomiting came on. There was [illegible] cried out in attacks of pain. [illegible] intussusception with a piece [illegible] section was performed. The [illegible] a considerable quantity of [illegible] Death followed two days after the operation. There was no necropsy.

Commenting on this case Dr. Hall says the diagnosis made at first was Henoch's purpura, but he thinks this may be rejected because of the fæcal vomiting, the presence of constipation, the absence of blood and mucus from the stools, and the existence of an intussusception. As the recorded cases show, there is nothing in these signs which are opposed to a diagnosis of Henoch's purpura complicated by an intussusception.

CASE 14 (Mr. Lett's case).[12]—Male, aged three years. There was a [illegible] purpuric spots were [illegible] operation abdominal pain was complained of again, the purpuric [illegible]

Mr. Lett's case is particularly valuable because of the occurrence of a second intussusception in the course of an attack of Henoch's purpura. The first one was ileo-cæcal and was successfully treated by operation. The second was enteric and was situated ten inches from the ileo-cæcal valve. The vomiting and pain ceased immediately after the operation, the bowels acted, and the child was free from all signs of intussusception for seven days. Unfortunately, when the second intussusception occurred the child's condition was such that any further operation was out of the question. In this case Mr. Lett has brought forward the most conclusive evidence yet adduced of the causal connexion between Henoch's [illegible]

It is n[illegible] there should be a tendency [illegible] of effusion into the bowel wal[illegible] rary paralysis in the [illegible] violent peristaltic movements occur in the part of the bowel immediately above, which is driven into the flaccid bowel and an invagination is formed.

Some cases of this affection seem to lead up very readily to a diagnosis of spontaneous reduction of an intussusception. In former years I have accepted this diagnosis without hesitation, but further experience has led me to doubt whether it is justified as often as it is made. The invagination of one part of the bowel into another is a pathological condition which, when once started, tends to increase very easily as the course of the affection shows. But the reverse process, the means by which an invaginated portion of bowel can free itself, is not at all clear or easily understood. In cases which are not submitted to operation and which recover the diagnosis must be a matter of uncertainty, but the evidence of effusion into the bowel wall is in many cases at least as strong as that of the spontaneous reduction of an intussusception. The sudden onset of abdominal pain in a previously healthy infant or child, along with vomiting and the passage of blood and mucus from the bowel, certainly suggest intussusception, but the subsidence of all symptoms in from 24 to 48 hours is equally suggestive of effusion into the bowel wall. Discussing this type of case Mr. H. S. Clogg[13] writes as follows:—

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[8] Scottish Medical and Surgical Journal, 1908
[9] Common Disorders of Childhood, 1909, p. 114.
[10] Proceedings of the Royal Society of Medicine, 1909, vol. ii, No. 6.
[11] THE LANCET, May 30th, 1903, p 1543.
[12] Reports of the Society for the Study of Disease in Children, 1903.

> In two cases I have recently seen, both healthy babies, three and six months of age, both were reported as becoming suddenly ill, crying with pain, turning pale, and [illegible] slime by the bowel. In both [illegible] intussusception, and the aspe[illegible] The abdomen could be easily palpated and nothing was felt. So strong was the history that I examined under an anæsthetic, still with a negative result. In these two cases I could feel nothing. As both babies were a little collapsed rectal salines were given. [illegible] further blood and mucus, and in 24 hours the bal[illegible] It is hardly possible to regard such cases as coli[illegible] consider them as cases of intussusception reduced spontaneously.

CASE 15 (Dr. Still's case).[14]—Female infant, four months old. Two days previously suddenly began to scream and continued for two hours. Then vomiting and passage of blood and mucus per anum, without fæcal matter. Frequent attacks of abdominal pain. On the day she was seen the bowels had acted twice, once only blood and mucus had passed and the second time the same with a trace of green fæces. Only slight vomiting during previous 18 hours. No tumour felt. An enema of warm olive oil brought away a large quantity of mucus but no fæcal matter. The symptoms steadily diminished and recovery followed. In this case an intussusception had been carefully looked for but none found.

These three cases may be regarded as typical of a class in which a diagnosis of spontaneous reduction of an intussusception is commonly made. On the clinical evidence, however, one can only assert that there were symptoms of obstruction of the bowel with melæna; and these may equally well have been produced by effusion into the bowel wall with temporary paralysis. More precise information is gained when the abdomen is opened and the condition of the bowel can be examined. Even under such circumstances if one is inclined to a diagnosis of spontaneous reduction of an intussusception it is very easy to find confirmatory if not conclusive evidence. The condition of the bowel wall, congested or hæmorrhagic, and thickened by the effusion, is very similar to that of a mechanically reduced intussusception, and the surgeon very naturally assumes that nature has simply anticipated his procedure. In a certain number of cases the further progress of the disease will show clearly that it was quite unnecessary to assume the existence of an intussusception (see Case 8). The following case I accepted at the time as an example of the spontaneous reduction of an intussusception, but now I think it may have been simply a sudden effusion into the bowel wall.

CASE 16.—A male, aged four years. Quite well until 3 P.M. (four hours before admission), when he was suddenly seized with acute abdominal pain. Has vomited three times. Has seemed drowsy and has been having attacks of pain about every five minutes, when he rolls about in agony. Frequent desire to defæcate and straining, but nothing passed. Boy well nourished, but lies in a drowsy condition; looks collapsed, eyes sunken, slightly sick occasionally. Frequent attacks of abdominal pain in which he screams, tosses about, and presses both hands to umbilical region (to which pain is referred); then passes into a state of opisthotonos, with only back of head and heels resting on the bed. As pain subsides the opisthotonos passes off. Abdomen is soft, swollen, not generally tender. A hard tender lump, about the size of a hen's egg, is felt just above and to the right of the umbilicus, and firm pressure here elicits a paroxysm of pain. At 10 P.M. laparotomy. There was no evidence of peritonitis. On following up the small intestine which presented, the last three inches of the ileum were found to be congested, and had a thick solid leathery feel. This was regarded as an intussusception which had been reduced in the process of manipulation. No other evidence of disease found. Boy made an uneventful recovery without pain. There was at no time any blood in motions.

In a recent thesis for the degree of M.D., Mr. Duncan C. L. Fitzwilliams has reviewed the records of a thousand cases of intussusception, and gives the following examples of spontaneous reduction as evidenced at operation.

CASE 17 (Mr. Fitzwilliams's case).—A male child, aged three years with a typical history of 30 hours' duration. No blood had been passed but a tumour was easily felt on the right side of the abdomen. At the operation no invagination was found, but the lower two inches of the ileum and the cæcum, with the adjoining mesentery, were congested [illegible]

[illegible] male infant, aged ten months, [illegible] and blood had been passed per an[illegible] the operation the tumour was found to be reduced, but numerous fresh hæmorrhages and petechiæ were seen on the bowel. One of the extravasations of blood was the size of a halfpenny.

Here again the evidence of a previous intussusception does not appear to be conclusive. Mr. Fitzwilliams adds a third case which had been under the care of Mr. T. H. Kellock and published by him.

CASE 19 (Mr. Kellock's case).[15]—Mr[illegible] with a history of two days' illness [illegible] pain, vomiting, and the passage [illegible] fæcal matter. Cessati[illegible] he was [illegible] anæsthesia. [illegible] stool containing a good deal of blood. Laparotomy. [illegible] he lower seven or eight inches of the ileum were quite collapsed [illegible] of a dull reddish brown colour, with one or two small hæmorrhages in the wall. Bowel above and below appeared healthy. Rapid and complete recovery.

In this case there may or may not have been an intussusception previous to the operation. Mr. Kellock refers to the influence of the anodyne in this case as aiding the reduction by quieting peristalsis. It certainly is a striking fact that in many of the cases described as spontaneous reduction the symptoms had persisted right up to the administration of the anæsthetic. One cannot help thinking that if reduction of the intussusception did occur, it was not exactly spontaneous but due to the influence of the anæsthetic in checking the excessive peristalsis or spasm and allowing the muscular action of the bowel to come into play in relieving itself.

Cases described as chronic or relapsing intussusception frequently show little conclusive evidence of that affection, and so far as the symptoms go may equally well be referred to a condition of effusion into the bowel wall. Without denying the existence of chronic or relapsing intussusception, of which I have seen undoubted examples, I think that some of the cases so diagnosed are capable of a different interpretation. The following two cases appear to me to have been due primarily to hæmorrhagic effusion into the bowel wall:—

CASE 20 (Dr. Still's case).[16]—Two days before admission a boy, aged two years, was seized with colicky pain in the abdomen, and passed a considerable amount of blood per anum on two occasions. Vomiting [illegible] the bowels had not acted. Eight [illegible] a similar attack, with the passage of [illegible] had been diagnosed at another hospital, where the patient was consi[illegible] Gradual recovery had followed. On [illegible] the adjoining parts of the transver[illegible] seemed to harden and soften. On rectal examination some [illegible] blood came away. The patient looked extremely ill, with sunken eyes, mucus on the corneæ, &c., and operation was not considered advisable. The provisional diagnosis wa[illegible] though Henoch's purpura was also considered. [illegible] place, with disappearance of the abdominal tum[illegible] came a recurrence of the symptoms, and a tumour was again palpable in the same situation. The child sank rapidly and died three days later. At the necropsy there were suppurative peritonitis and a large intussusception at the site of the tumour felt during life. The layers were only slightly adherent, so that the intussusception had probably only recurred quite recently. Dr. Still regarded the case as one of relapsing intussusception.

CASE 21 (Dr. Emil Dobell's case).[17]—A boy, aged eight years, was seized with acute abdominal pain and constipation. The colicky attacks continued, diarrhœa set in, and pure blood was passed per anum. Eight days after the onset purpuric spots on the legs, which later became general, and were accompanied by swelling and tenderness in many joints. From the age of three years the boy had suffered from similar attacks of colicky pain, which had been diagnosed as due to lead poisoning, and from joint pains, which had been regarded as rheumatic. On admission into hospital three weeks after the onset purpuric spots were present on the trunk and extremities, and the eyelids and feet were œdematous. The abdomen was retracted and a tender swelling was palpable in the sigmoid region. This tumour lay in the line of the colon, was firm and irregular, moveable, and apparently immediately under the abdominal wall. Relief from acute symptoms followed the use of oil enemata and much fæcal matter was removed. A week later came a recurrence of the purpura, œdematous swellings, and abdominal pain. The tumour was again felt, larger than before, while [illegible] to alter. The diagnosis of ileus from [illegible] to ileus from chronic or relapsing [illegible] flexure. As the attacks of pain and purpura continued, the patient was referred to a surgeon for operation. The surgeon could not discover any tumour either by abdominal or rectal examination. There was no recurrence of the abdominal pain, but hæmaturia set in and fresh purpuric spots appeared at intervals.

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[13] British Journal of Diseases of Children, June, 1908.

[14] Common Disorders of Childhood, 1909, p. 121.

[illegible] 1904

[illegible] p. 123.

[17] [illegible] vol. xxxviii.

The final diagnosis was chronic intussusception from chronic constipation, with secondary purpura. The patient eventually made a complete recovery.

There does not appear to be any necessity to assume the existence of an intussusception in either of these cases. In Dr. Still's case there was an intussusception, the necropsy [illegible] ood from [illegible] months, [illegible] cases of [illegible] where the circulation in the invaginated portion is not seriously interfered with. Consequently, from the history of severe melæna in Dr. Still's case, it may be suggested that the primary trouble was intestinal effusion of blood, and that as the result of this intussusception occurred shortly before death, as has happened in other recorded cases.

This form of intestinal hæmorrhage may simulate certain affections of the colon such as mucous colitis, acute ileocolitis, and ulcerative colitis. In fatal cases there may be found extensive ulceration of the colon due to the sloughing of the mucous membrane at the hæmorrhagic areas, which are often diffused widely over the bowel.

[illegible] elsewhere.

This case may be variously interpreted, but from the attacks of pain I was led to believe that hæmorrhage had taken place into the bowel wall. I have seen similar symptoms in a young woman who was said to suffer from mucous colitis. In one of these attacks when she was under observation she passed large quantities of blood and mucus by the bowel and suffered from intermittent and colicky pain in the region of the colon. At other times she suffered from attacks of angio-neurotic œdema, the whole face becoming swollen and œdematous.

CASE 23 (Dr. Ashby's case).[15]—A boy, aged nine years, was suddenly seized with pain in the abdomen whilst at school, followed by the passage of blood and mucus by the bowel; the symptoms continued during the night. After admission next day he passed in the course of 24 hours 12 stools, consisting almost entirely of blood and mucus [illegible] invagination of the bowel if present. This was done but only an intensely congested colon was found. Death followed eight hours later. At the necropsy [illegible] severity.)

Ulcerative colitis is not a common affection in early life and some of the recorded cases seem rather to fall into the category of the affection we are considering. The post-mortem evidence is by no means conclusive, for it may not settle the question as to whether the ulceration was primary and the hæmorrhage secondary or *vice versâ*. In cases of Henoch's purpura I have seen definite ulceration of the colon which was clearly secondary to hæmorrhage into, and sloughing of, the mucous membrane. The presence of other hæmorrhages in the bowel wall is always suggestive of a primary h[illegible] A diagnosis [illegible] en the clinica[illegible] a condition of extensive hæmorrhagic effusion into the wall and the lumen of the bowel.

It is difficult to bring forward any evidence from the text-books of [illegible] crises fr[illegible] ignored and any examples are usually to be found classed under some other disorder. Without adding anything fresh I have tried to show by collecting a number of cases that the condition is one of considerable importance, and that there are various problems connected with it about which we require more information before any dogmatic statements can be made.

Wimpole street, W.

A CASE OF ACUTE MASTOIDITIS, WITH LATERAL SINUS SUPPURATION AND CEREBELLAR ABSCESS AS COMPLICATIONS OF THE OPERATION FOR THE REMOVAL OF TONSILS AND ADENOIDS.

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A CHILD, aged seven years, had an operation performed for the removal of tonsils and adenoids on Dec. 28th. She was kept in bed for five days, and was then looked upon as convalescent. Nine days later she was admitted to the hospital with the history that she had had ear trouble in both ears for four days. On admission the temperature was 100·6° F., pus was discharging freely from both ears, and on the right side there was a superficial mastoid abscess which was opened at once. The mastoid antrum was at the same time cleared out and found to be full of pus. No improvement resulted, and as the child was very ill, the temperature having risen to 104·2°, the wound was opened up 48 hours later. Pus was seen to be welling into the cleaned out mastoid antrum from behind, so the lateral sinus was exposed and the groove was found to be full of pus. The internal jugular vein was not considered at this time to be thrombosed. The child did not improve. She was desperately ill and had pyæmic symptoms. The temperature was 104·8°, and there was a little diarrhœa. On Jan. 15th, two days after the second operation, the internal jugular vein in the neck was divided between two ligatures; it was quite patent. The old wound was opened up and the sigmoid groove exposed more freely both in a downward and backward direction. The temperature remained high, up to 105°, for three days, and then gradually fell to normal. Convalescence was slow; it was a month before the child really showed much vitality. Early in February paralysis of the facial nerve of the side operated on became suddenly marked, but this disappeared without any special treatment, and the child was in March perfectly well. She was sent in very good condition to a convalescent home, and after being there about four weeks was readmitted to the hospital on April 29th because she had become drowsy, was sick, and had had a convulsion. On that day she was dull and apathetic, had a subnormal temperature, and a slow pulse. She was sick several times and had a few slight general convulsions soon after admission. As the symptoms of cerebral abscess were quite clear she was trephined at once over the cerebellum. This spot was selected in preference to the temporo-sphenoidal lobe as the lateral sinus groove had been diseased previously. At the first puncture of the cerebellum pus flowed freely by the side of the sinus forceps, a tube was put in, and in a few hours the child was sitting up in bed, quite lively. Drainage was difficult, the tube having to be readjusted and the track dilated on two or three occasions, owing to the reappearance of symptoms of cerebral pressure. Later a discharge of cerebro-spinal fluid was seen, [illegible] and the child died [illegible] the commencement of her illness.

Necropsy.—The right lobe of the cerebellum was converted into a large abscess cavity; there was a communication between it and the lateral ventricle of the same side, which, as well as the left ventricle, was full of pus. I think if it had not been for the last unfortunate complication (the communication of the abscess cavity with the ventricles) the child would have lived. I do not see how such a misfortune could have been avoided, nor what could have been done for it when it had occurred.

There are one or two points of interest in this case. First, acute mastoiditis and its complications is fortunately an exceedingly rare result of the operation for the removal of tonsils and adenoids. Neither of my two senior colleagues nor myself, in a very extensive experience of this operation, has ever seen it before. Otitis in its various forms is not uncommon, especially in those children who have had previous ear trouble (in this case no history of any ear trouble could be obtained). It is, I think, generally due to sepsis spreading up the Eustachian tubes from the raw surface left round the orifices by the scraping. I am sure I have seen this complication less frequently since I have adopted the plan of scraping only strictly in the middle line and leaving the few scraps around the orifices of the tubes alone. Another important factor in the avoidance of subsequent ear trouble is the after-treatment, a week in bed in a warm room being the most essential point. Secondly, it brings home closely to one the fact that this operation is not always the trifle it is sometimes thought to be. Many complications *may* follow it—e.g., ear trouble, suppuration in the lymph glands of the neck, hæmorrhage which may even be fatal, and so on. I think we should never tell the parents that the operation is a very minor one.

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[15] Ashby and Wright: Diseases of Children, p. 102.

I am largely indebted to my colleagues, Mr. G. Morgan and Mr. H. H. Taylor, for advice and assistance in connexion with this case.

Brighton.

ORAL SEPSIS IN ITS CONNEXION WITH THROAT DISEASE.[1]

BY GEORGE IRVINE STEWART, M.A., B.Sc., M.B., C.M. ABERD., F.R C.S. ENG.,

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1. *The Signs of Oral Sepsis.*

THERE are many more than are to be found in text-books. All of them can be categorised under the signs of inflammation of mucous membranes—redness, swelling, heat, pain, increased secretion, and loss of function. A peritonsillar abscess is the best example of an intense oral sepsis.

Redness.—This varies in intensity and can be general or local; locally it is most evident opposite a focus such as a septic tooth. In slight cases it is evident as a red line parallel to, but separated by one-sixteenth of an inch from, the border of the gums. As long as this red line is present there is oral sepsis. It is most persistent on the gums bordering the lower molars, and particularly the lower incisors. A characteristic reddening from oral sepsis is to be seen on the soft palate, as a red band half an inch broad commencing on the anterior pillar and arching round towards the centre of the soft palate, but just stopping short of the uvula. The remainder of the soft palate may be quite pale and the red band shows up very distinctly.

Swelling.—This is evident in most cases. It involves all the mucous membranes—of the gums; of the cheeks, which have the teeth plotted out in the œdematous swelling; of the tongue, which is similarly marked by the teeth; and of the lips. The swelling of the lips is most marked in infants, leading to a great protrusion and eversion of the lower lip.

Heat and *pain* are not extreme, but in some cases the breath appears hotter than normal, and discomfort causes the speech to be slovenly.

Increased secretion is evidenced in slight cases by the breaking of bubbles between the back part of the tongue and the soft palate when the mouth is opened. In the worst cases—e.g., in peritonsillar abscess—the dribbling is excessive. Dribbling is also well seen in the "teething" of infants, which is neither more nor less than a fairly intense stomatitis, and is most evident in bottle-fed babies in whom decomposition of milk is more likely to occur.

Loss of function.—Of all the signs of oral sepsis this is the most marked and has been the least recognised in its significance and its detrimental effects. It is characterised by diminution or loss of function of all the muscles of the oropharynx—viz., those of the pharynx, palate, tongue, cheeks, and lips. The buccal, oral, and lingual muscles are used for forwarding the food particles to the gullet, for keeping the mouth clear of food, for cleansing the mouth and teeth, and with the pharynx for articulation of speech. The teeth owe a great part of their cleanliness to proper tonicity of those muscles, and the moment their function is diminished by oral sepsis there is an increase of deposited muco-pus and an increase of oral sepsis; that is to say, a true vicious circle is started. The teeth that receive the least cleaning naturally can be readily identified—viz., the lower incisors and the lower molars, precisely the ones that show the red line, the sign of oral sepsis, longest.

The speech in oral sepsis, on account of the lack of tone in the muscles and from the discomfort caused by the swelling of the mucous membranes, becomes slovenly, partially guttural in character, the back part of the tongue being used in preference. It is so characteristic that perhaps the term "circumvallate" speech might be coined for this, as it is in the region of the circumvallate papillæ that the speech is articulated. An extreme case of this sort in a child where the speech was almost unintelligible was cured by proper use of the toothbrush (and the exercises in articulation by the teacher which before had been tried in vain).

The result of this loss of function of the muscles, to which I should wish to call most particular attention, is the dropping of the lower jaw and of the lower lip, which becomes thereby everted. The well-known open-mouth vacant expression usually attributed to adenoids and other nasal obstruction is really a characteristic of oral sepsis, which itself may be set up by nasal obstruction. The so-called "adenoid facies" is really that of oral sepsis, however induced. It is well seen in "teething" infants.

2. *The Effect of Oral Sepsis on the Throat Generally and Particularly on the Tonsils.*

My attention was first drawn to this by the need of finding other causes for laryngitis than "hysterical aphonia" and "nasal laryngitis." In throat hospitals the practice prevailed of at once depressing the tongue with the spatula, thereby concealing the teeth from view, without previously examining the state of the mouth. The practice of first drawing the cheeks aside to examine the state of the teeth is getting more and more universal. The following cases helped to emphasise the importance of oral sepsis in throat work.

CASE 1.—A male, aged 40 years, diagnosed by a well-known laryngologist as having tuberculous laryngitis. The cords were reddened and there was much muco-pus on the slightly swollen arytenoids. Quiescent tuberculosis was present at the right apex. He had a complete upper tooth plate lying on a row of septic stumps, each surrounded by florid granulations. Removal of the stumps on my advice cured the laryngitis in a month.

CASE 2.—A male, aged 19 years. His voice began to break four years ago. For the past two years he had been under treatment at a throat hospital for "squeaky" voice. The cords were reddened; approximation was incomplete. Removal of one stump and careful brushing of the teeth produced in six weeks such an alteration in the voice that his family and himself were continuously laughing about it. He had now a clear bass voice.

CASE 3.—The patient, a male medical practitioner, used to suffer from four or five severe colds every winter. He got severe septic stomatitis caused by sucking a post-mortem wound of the finger. Great attention has since been paid to cleansing the teeth. He now has one "cold" in two years on the average.

Seven elementary school teachers frequently off duty for loss of voice, quinsies, and sore-throat; since having the teeth attended to they have rarely any trouble.

Peritonsillar abscess.—Of 49 cases of this condition 47 had an extremely septic lower molar on the same side. One case (bilateral) had septic molars on both sides. The pus from those abscesses has the same characteristic odour as that from a dental antrum. The oral sepsis in those cases is extreme and is usually regarded as secondary; it is probably primary.

Unilateral enlargement of the tonsil.—Of 231 cases (in children of school age) of unilateral enlargement of the tonsil 135 had dental caries, mostly of lower molars, and oral sepsis on the side of the enlarged tonsil; 67 had dental caries and oral sepsis on both sides; 16 had no oral sepsis at all; and 15 had dental caries and oral sepis on the opposite side. I have never seen a case of unilateral inflammatory enlargement of the tonsil in an infant, in whom, of course, the oral sepsis is always bilateral. I believe that the organisms round septic teeth travel directly backwards along the sulci on either side of the lower jaw, and, meeting with the tonsil, settle there and cause its inflammatory enlargement. This [illegible] he red band of [illegible]

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[1] A paper read before the Ipswich Clinical Society.

3. *Physio*[illegible] *Tissue in the Pharynx.*

In children the lymphadenoid tissue is more extensive than in the adult and is spread out on the wall of the pharynx, forming a complete ring continuous with the adenoid tissue in the naso-pharynx. The lower limit of adenoid tissue is very irregularly defined and may in cases reach the glottis. As age increases this adenoid tissue disappears and remains chiefly in the tonsil and the so-called lateral bands of the pharynx. It is possible that this disappearance is the result of the frequent attacks of catarrhal conditions in children, such as measles, scarlet fever, sore-throats and common colds, &c. Each attack would cause a degeneration of certain portions of adenoid tissue which would not be replaced. I would look upon the adenoid tissue in the pharynx as a protective barrier in which the attacking micro-organisms are dealt with actively, in which leucocytosis is most active and where immunisation of the body can be developed. Every attack of the invading micro-organisms would cause an inflammatory enlargement of the adenoid tissue, and in the fight certain portions of the adenoid tissue would be killed, so that the power of the adenoid tissue to resist invasion would be diminished by each attack. In addition, however, the numerous crypts existing in adenoid tissue act as good covering for the attacking organisms where they mass together for a further onslaught, which is rendered the more easy on account of the lessened resistance already produced, and once the adenoid tissue is severely degenerated it is not only useless as a protecting barrier but provides a point of vantage for further invasion.

The tonsil itself I would look upon as the special adenoid (lymphatic) gland of the mouth, lying openly in it, specialised it is true, but just in the same way that a Peyer's patch in the intestine is specialised. A tonsillitis would thus be an adenitis, and a peritonsillar abscess a periadenitis As a rule the tonsil and other [illegible] But occasionally the tonsil and adenoid tissue are overwhelmed in the attack, and the next link in the lymphatic chain becomes involved—viz., the glands at the angle of the jaw—and these take up the fight, undergoing enlargement in the process. If the attack is still more severe then the organisms no longer confine themselves to the mouth, but travel either upwards to the naso-pharynx or downwards to the stomach and lungs. Naturally when the tonsils and other adenoid tissue are already badly degenerated and act as harbourages for micro-organisms, the barrier power is extremely diminished and attacks of naso-pharyngitis and bronchitis become more and more frequent. I believe that the spread of inflammatory conditions from the oro-pharynx to the naso-pharynx by continuity is more frequent than is supposed. It must be remembered that Greville MacDonald long ago pronounced the nasal cavity to be normally free from organisms, while the mouth is normally crowded with them.

4. *Treatment and Indications for Such Based upon the Above.*

When inflammatory enlargement of the tonsils is recognised the treatment is that of enlarged glands in any part of the body: 1. Remove the cause. 2 If that is not sufficient, then the enlarged degenerated tonsil should be removed by surgical interference. Removal of the cause is the prevention or cure of oral sepsis, the extraction of septic molars, and careful mechanical cleansing of the teeth by brushing. This must precede surgical removal of the tonsil. In fact, the reckless way in which we all have removed tonsils without attending to the causal oral sepsis cannot be too strongly condemned. It is to my mind the explanation of why so many cases show unpleasant complications and bad results. Removal of the tonsils would be less indicated by their actual increase in size than by the evidence of their inefficiency, as shown by swelli[illegible] the jaw and by frequent atta[illegible] bronchitis. The use of the [illegible] during, and after tonsillotomy, and as a means of preventing attacks upon, and preserving the integrity of, the adenoid protecting ring cannot be too strongly advocated.

Ipswich.

A CASE OF PRIMARY SARCOMA OF THE DUODENUM.

By H. M. MACKENZIE, M B. EDIN., D.P.H. CANTAB ,
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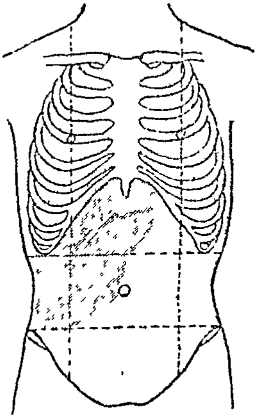
THE comparatively rare occurrence of primary sarcomatous growths originating in the small intestine, and more especially in the duodenum, lends some degree of interest to the present case.

The patient, a Hindu labourer, aged 18 years, was admitted to the Mayo Hospital, Lahore, on Dec 21st, 1908, under the care of Major H. G. Melville, I M.S , complaining of pain in the abdomen and back and swelling of the feet. [illegible] good and up to the date [illegible] always been fair. The [illegible] ays before admission, when he first felt pain in the abdomen and back, and some days later he noticed swelling of his feet. No treatment was adopted, but as the symptoms became more severe he came to hospital. On admission the patient, an anæmic, poorly developed youth, was suffering from pain in the abdomen, especially marked in the right hypochondriac and right lumbar regions and also from pain in the back in the middle line, the pain in both places being increased on pressure. He was markedly jaundiced and passed clay-coloured stools, but there was no diarrhœa or melæna. The urine was normal. The appetite was diminished and thirst was increased and the temperature was subnormal. On examination of the abdomen a large, moderately firm mass, moving with respiration and mobile on palpation, was found to occupy the right hypochondriac, right lumbar, and part of the epigastric and umbilical regions, as shown in the illustration, the inner margin being distinctly nodular.



The lower edge of the liver was palpable in parts, other parts being somewhat obscured, and light percussion gave a tympanitic note between the upper margin of the swelling and the edge of the liver, except on the right side where the dulness was continuous There was some [illegible] of the swelling towards the upper and inner margin. [illegible] malignant growth of the right [illegible] with dilatation of the gall-bladder from obstruction of the common bile duct. General symptomatic treatment was adopted, but the condition of the patient steadily grew worse and he died on Jan. 12th, 1909.

The post-mortem examination was conducted 24 hours after death. The body was that of an emaciated, poorly developed youth and showed very marked jaundice. Post-mortem lividity was slight and rigor mortis was present in the lower limbs only. The abdomen, which was retracted, showed slight fulness on the right side but no other abnormality externally. On opening the abdomen a large, fairly firm, but very friable tumour was found occupying the upper two-thirds of the right half of the abdominal cavity, extending downwards for about 5½ inches from the lower margin of the liver and from the right flank inwards nearly to the umbilicus. The duodenum disappeared into the centre of the mass, and several coils of small intestine were firmly adherent to its antero-internal surface, as was also the cæcum in the region of the appendix. The right kidney was considerably enlarged and partially imbedded in the growth from it could not be separated, but there was a sharp line of demarcation between the kidney substance and that of the tumour, and sections examined microscopically showed vestiges of the kidney capsule and no infiltration of the kidney. The right suprarenal body was enlarged to twice the normal size but was not adherent, while the ureter was patent and not affected. The pancreas was somewhat enlarged and adherent to the posterior surface of the growth. There was no connexion between the tumour and the liver, but the gall-bladder, which projected on to the anterior surface of the tumour, was dilated, containing over 4 ounces of thick bile, due to occlusion of the common bile-duct from pressure exerted by the tumour. The distended gall-bladder accounted for the fluctuation which was made out on physical examination. On following the duodenum into the tumour and laying it open, it was found to dilate into a cyst-like cavity some 3 inches in diameter, with rough, irregular walls, from the lower end of which it emerged again as a recognisable structure. Microscopical examination showed the tumour to have no capsule and to be composed of a stroma of fibrous tissue containing poorly developed blood-vessels and having the spaces filled with small cells. Some of these were irregular in outline, but the majority were of the round-cell type, with large deeply staining nucleus and faintly staining protoplasm. A delicate fibrillated intercellular substance could also be distinguished. The right kidney and the liver presented no specially noteworthy appearances, the kidney showing slight breaking down of tubular epithelium in places and the liver showing commencing monolobular cirrhosis with dilatation of bile capillaries. The pancreas, although adherent, showed no evidence of cellular infiltration. Successive sections of the duodenal wall from the point where it entered the tumour to the point of maximum dilatation of the cavity showed gradual disappearance of the structure of the glandular epithelium, followed by that of the muscular wall, until at the widest portion of the cavity there was no trace of intestinal wall, the wall of the cavity being composed wholly of tumour tissue of the nature described. Smears made from the contents of the cavity showed the ordinary intestinal bacterial flora and also many loose cells resembling those of the tumour in character. Some of the mesenteric glands showed enlargement, but microscopically no metastases were found, the enlargement being of the nature of a simple lymphatic hyperplasia. No secondary growths were found in any of the organs. Death appeared to be due to general cachexia and exhaustion, hastened probably by the toxæmic condition caused by the obstruction of the common bile duct. The rapid development of the primary tumour and the absence of any metastatic growths are noteworthy features in the case.

I am indebted to Major Melville for the report of the clinical symptoms and physical signs.

A CASE OF INHERITED TACHYCARDIA.

BY JAMES KIRKLAND, M.B., C.M. GLASG.

THE following case may be of interest to readers of THE LANCET. It clearly demonstrates that heredity plays a very active part in the etiology of tachycardia. I cannot find any other case reported having such a remarkable family history. Dr. A. W. Falconer in the *Practitioner* for February, 1909, records a case occurring in mother and daughter, and several other cases have from time to time been reported where the disease has been passed from a parent, usually the mother, to one or two children. But this case [illegible] the inheritance can be traced from [illegible] and descends to almost all the issue [illegible]

The particular member of the family now under my care, and whose case is here reported, is a male, 56 years of age, single, of no regular occupation, of independent means, of average build, but whose weight varies considerably (e.g., in February, 1906, he weighed only 6 stones 9½ pounds, in October, 1907, he weighed 12 stones 3½ pounds, and his present weight is 10½ stones) and who is 5 feet 10½ inches in height. He consulted me for nervous depression and tachycardia early in the present year. He has never been strong, having had pneumonia when six months old and peritonitis at 11 years of age. In 1897 he had a very bad attack of heart trouble—tachycardia, with hæmorrhage, supposed to have been from the lungs, but there was no trace of tubercle bacilli in the sputum, nor is there any now. This recurred in January, 1898. After several minor attacks he had a very serious one in October, 1900, followed by collapse. No record has been kept as to the rate of the heart beat, nor the length of time the attacks lasted. In 1901 he had nine attacks of a more or less serious nature, lasting from 18 to 21 hours. Bromide of potassium and morphine were used, evidently with success. In 1902 he had six bad attacks preceded and accompanied by "green sickness" and dyspepsia (flatulent). These lasted from five and a half to 23 hours. Bromides and morphine were pushed more strongly than in 1901. In February, 1903, there was a very bad attack and for the first time dyspnœa was recorded. In March, 1903, the patient had two attacks. On the first occasion irregularity was noticed, and this has remained a feature of the attacks ever since. On the latter occasion it is said that a gall-stone was passed. The "dark green sickness" was excessive and nothing seemed to give any relief until this stone passed. In April, 1903, "congestion of the base of the brain" was noted and strychnine was used for the first time. The attacks now became more frequent; all seem to have been accompanied by more or less dyspnœa, flatulent dyspepsia, and sleeplessness. There has also been a cough, with profuse frothy expectoration free from tubercle bacilli or blood. The irregularity at first would pass off with the attacks, but it is now (1909) constant. There was a rise of temperature on several occasions, but it was due, I think, to other causes. The patient could not eat anything but the lightest food on account of dyspepsia and consequent "heart hurry." One peculiarity that was noticed was the singular effect which hair-cutting or beard-trimming had upon the patient. It seemed to make him feel sick and faint, and he looked pale and haggard. So marked was this that his friends dreaded the ordeal and he himself postponed it as long as possible.

When the patient came to place himself under my care his heart beats varied from about 120 to 240 (the latter when an attack came on). There is a systolic mitral murmur and strong pulsation in the right side of the neck; on the left it is much less marked. The right lobe of the thyroid gland is enlarged and evidently acts as an irritant to the pneumogastric nerve; pressure upon this gland seems to excite the patient and to increase the frequency of the heart beat. The lungs are free from any defect in the apices, but there are moist râles in both bases. There is a varying amount of flatulent dyspepsia and a troublesome cough with profuse expectoration (free from tubercle bacilli). The urine is normal (specific gravity 1022) and the bowels are regular. The nervous system is far from satisfactory and the patient is melancholy and depressed. There is marked irregularity of heart action, which is greatly increased on any slight exertion.

Since I have had the patient under my care he has had only one attack of a serious nature. The heart beats were between 220 and 240. It was difficult to count owing to the irregularity. Dyspnœa was most distressing, increased by the cough and any slight exertion, even eating or drinking. The voice was much affected, amounting at times to aphonia. There were great abdominal discomfort and flatulent dyspepsia. The patient had to be propped up in bed, and was most comfortable and easy in this position and the dyspnœa was less severe. The attack came on suddenly after a walk that was beyond his strength, and lasted 28 hours, passing off as quickly. I tried many remedies without success, but finally a hypodermic injection of strychnine together with a mixture containing apomorphine hydrochlor. (1/16 grain), caffeine hydrobromide, &c., seemed to cut the attack short. I am now using 15 drops of digalen (a continental remedy and an extract of digitalis) thrice daily. It seems to have a very good effect upon the heart, which has greatly improved in every way since I began using it.

Family history.—This is most interesting, and I can find no case recorded with so marked a family idiosyncrasy towards tachycardia or so clear a history of heredity in this direction. The whole family practically seems to be subject to the disease. T[illegible] the family had marked [illegible] known whether it was act[illegible] was delicate as a young man, and he died from heart failure following influenza. One of the father's sisters suffered terribly from severe heart attacks, probably tachycardia, and she died from heart affection. The mother was threatened with pulmonary trouble in her youth, but this tendency passed off. She was all her life afflicted with intermittency of pulse, breathlessness, and palpitation. There were six daughters and three sons. The patient's two brothers are alive and both suffer at times from cardiac pain and palpitation, sometimes accompanied by slight dyspnœa. The eldest sister died at 28 years of age from pneumonia; she also suffered from cardiac discomfort with breathlessness. The second sister, who died at the age of 36 years, had splenic disease. She was married but had no children. She developed tachycardia from sea-sickness on a long voyage. The third sister died from peritonitis. In her case there was no apparent heart trouble so far as the patient knows. The fourth sister is still alive and is well but not robust. The fifth sister, who had pronounced heart trouble, died at 46 years of age from heart failure, and for the last three or four months of her life she was very ill suffering from tachycardia accompanied by dyspnœa. She was never able to take proper food, as tachycardia was sure to follow an average meal. The sixth sister died at about six years of age from concussion of the brain. She had dropsy which was said to be due to cardiac disease. The eldest niece has developed symptoms of tachycardia and cannot join in games, races, &c.

We thus see that both grandmothers, the father, the mother, the aunt, four out of six daughters, the three sons, and at least one niece were, or are, victims to heart lesions. The trouble did not show itself to any appreciable degree in most of these cases until at least early adult life. We cannot therefore say definitely how many of the fourth generation will escape, but from present appearances it is almost certain that more than the one will suffer.

Postscript.—Since I wrote the above notes of the case the patient died very suddenly during an acute attack.

Leigham Court road, S.W.

THE EFFECT OF DIPHTHERIA ANTITOXIN ON THE TUBERCULO-OPSONIC INDEX.

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IN the *Liverpool Medico-Chirurgical Journal* for 1906, Vol. XXVI., Dr. T. R. Bradshaw and Dr. E. E. Glynn recorded in a series of nine cases the occurrence of low indices to the tubercle bacillus in patients previously injected with antidiphtheritic serum. The number of cases was not large enough to justify a very decided inference, and the following observations were undertaken with a view of clearing up the relationship. The subjoined tables give the results in a concise form.

TABLE I.

—	Before antitoxin.	24 to 48 hours after.	14 to 15 days after.
1	0·97	1·00	0·75
2	1·06	1·04	0·94
3	0·99	0·98	0·99
4	1·12	1·21	0·94
5	0·85	1·27	0·82
6	1·01	1·03	0·83
7	1·00	1·08	1·00
8	1·03	0·88	1·04
9	0·97	1·07	1·03
10	0·91	—	1·00
11	1·01	1·14	Died.
12	1·00	1·10	1·03
Average ...	0·99	1·07	0·94

It may be observed that all the cases examined were free from obvious signs of tubercle, none were under a year old, and the blood was submitted to examination within 24 hours of withdrawal.

TABLE II.

—	Index.	Amount of antitoxin.	Day after injection.	Age of patient.
1	0·91	60,000 units.	10th	—
2	0·93	12,000 ,,	22nd	4 years.
3	0·66	12,000 ,,	25th	4 ,,
4	0·78	21,000 ,,	26th	4 ,,
5	0·86	15,000 ,,	26th	1½ ,,
6	0·91	15,000 ,,	28th	6 ,,
7	0·74	15,000 ,,	28th	18 ,,
8	0·94	16,000 ,,	29th	—
9	1·00	15,000 ,,	29th	17 years.
10	0·87	9,000 ,,	29th	12 ,,
11	0·94	18,000 ,,	31st	7 ,,
12	0·80	9,000 ,,	32nd	—
13	0·84	9,000 ,,	30th	8½ years
14	0·73	13,000 ,,	34th	12 ,,
15	1·09	6,000 ,,	34th	1½ ,,
16	0·75	24,000 ,,	35th	6 ,,
17	1·03	9,000 ,,	35th	2½ ,,
18	0·88	12,000 ,,	38th	—
19	0·83	30,000 ,,	39th	—
20	1·00	12,000 ,,	40th	—
21	1·01	18,000 ,,	46th	2 years.
22	1·05	24,000 ,,	46th	—
23	1·16	12,000 ,,	47th	—
24	1·02	30,000 ,,	47th	—
25	0·96	12,000 ,,	48th	5½ years.
26	0·97	15,000 ,,	50th	2 ,,
27	0·75	18,000 ,,	54th	—
28	0·91	15,000 ,,	56th	7½ years.
29	1·01	18,000 ,,	58th	2 ,,
30	0·97	30,000 ,,	72nd	7 ,,
Average ... 0·913		—	—	—

In no instance were less than 200 cells counted, the average number of bacilli being 2 to 3 per leucocyte.

From these results it will be seen that there is no great variation in the average index before and after the injection of serum. Nevertheless, a definite rise is apparent in the average index two days after injection, and this gains significance from the even distribution over individual readings. (Compare columns 1 and 2, Table I.) This was also noted in two of Dr. Bradshaw's cases. In Table II. the average index is within normal limits, but more than one-third of the indices are below 0·90, only six are above unity, while five are below 0·80. Arranging these according to the week in which taken, one half fall in the fourth and fifth weeks, giving an average of 0·86, and those during the sixth and seventh weeks 0·98 The other factors—age and dosage—seem to have little influence. As regards the former, the average index of those up to and including four years is about equal to the average of those between four and seven [illegible] total average. In the matter of dosage ag[illegible] from 15,000 to 60,000 units of antitoxin [illegible] same as that of those who got only from 6000 to 12,000.

One must conclude, then, that in healthy subjects the [illegible] is small, [illegible] re due to [illegible] 4 and 5, [illegible] figures. Table I. [illegible] Firstly, th[illegible] rise in the tuberculo-opsonic [illegible] of antitoxin; and secondly, that during some few weeks after this a somewhat low index to the tubercle bacillus is the rule. Also, these effects are independent of the quantity of antitoxin administered and probably of the age of the patient.

In conclusion, I have to acknowledge my indebtedness to

Dr. J. Brownlee and Dr. A. S. M. Macgregor of Belvidere Fever Hospital, Glasgow, whence I derived most of my material.

Glasgow.

A CASE OF MISSED LABOUR.

By PETER McEWAN, M.A., M.B., CH.B. EDIN., F.R.C.S. EDIN.,
RESIDENT SURGICAL OFFICER, ROYAL INFIRMARY, BRADFORD.

A MARRIED woman, 29 years of age, was admitted to Bradford Royal Infirmary on Oct. 24th, 1907, suffering from "abdominal tumour." Her menstruation had been regular until Oct. 19th, 1906, when her period ceased. In January, 1907, her abdomen became larger and continued to increase in size. Milk appeared in her breasts and she felt quickening. She had morning sickness and thought herself pregnant. The abdominal swelling gradually increased and the amenorrhœa persisted until May 19th, when she had a flooding followed by a slight reddish vaginal discharge, occasionally offensive, for ten weeks. She was in bed a few weeks; she had no febrile symptoms, and complained only of weakness. Since then she had two periods, one in September and the other early in October, both normal, but the loss was slight. She had no pain at these periods. She had had a feeling of weight in the pelvis, mainly on the right side, for the previous five months and her strength did not return satisfactorily. Her abdomen diminished in size from May 19th onwards. She had no trouble with the bowels or bladder except that she thought she had not been able to empty her bladder completely for some months, the act of micturition stopping suddenly. She had two children, six and seven years old respectively, and had had one miscarriage (at three months) four years ago, after which the patient was curetted.

On physical examination the patient was a dark brunette, fairly well nourished, with a slightly hectic flush about her cheeks. The mammæ were large and lax and showed a very well-marked areola and secondary areola; no milk could be expressed. The abdomen was distended to about the size of a seven months' pregnancy, and on palpation a rounded tumour could be felt rising out of the pelvis and extending about three fingers' breadth above the umbilicus. The upper limit of the swelling was rather higher on the right than on the left side, and its lateral margins were 1 inch from the right and 3½ inches from the left anterior superior iliac spines. The tumour as a whole had slight lateral mobility. It was firm in consistence, and in the right loin one could feel hard rounded bodies, and at times crepitus could be obtained. On vaginal examination the perineum was lax; the cervix parous, firm, slightly mobile; the os admitted the finger tip; the body of the uterus could not be felt apart from the rounded mass which filled the upper part of the pelvis and constituted the lower portion of the rounded abdominal tumour. There was a brownish discharge, slightly offensive.

On admission the patient's temperature was 103·6° F., the pulse was 130, and the respirations were 30 per minute. The tongue was coated. She felt quite comfortable. She remained in bed from Oct. 24th to 30th. She had a vaginal douche three times a day, large diet, and twice a gentle purge. She had an offensive vaginal discharge, reddish-brown, not much in amount, but coming away more freely after the douche. Her temperature remained high, with marked morning remissions, but even with a temperature of 103·4° she complained only of slight thirst and of feeling hot. The pulse varied from 98 to 126, and the temperature from 98° to 103·6°. Difficulty was experienced in attempting to pass the sound, and it was decided to examine the patient under an anæsthetic on Oct. 30th. Under ether the sound passed into the uterus for six or seven inches with ease, and it was decided to dilate the cervix and empty the uterus. The cervical canal was dilated first with Hegar's dilators, then with Bossi's dilators slowly and gently. The hand was then passed into the uterus and the shoulder of the fœtus was found presenting. The uterine wall was felt to be intact. The arm of the fœtus was pulled down; the head was cut off with a sharp hook; the body, then the head, extracted easily; the cord remained attached in utero. A good deal of dirty fluid escaped and the odour was exceptionally offensive. A coil of small intestine now appeared at the vaginal orifice, and when the hand was passed into the uterus was found to protrude from a rent in the posterior part of the lower uterine segment, slightly to the right of the middle line. The intestine was pushed up. The abdomen was opened by median incision. The omentum and bowel presented. A large flabby uterus, necrotic, adherent all round to various parts of intestine, was exposed. There was no sign of any attempt at contraction on the part of the uterus, and its wall was very thin, hardly thicker than stout brown paper, except in the region around which the placenta was attached. The necrotic wall had given way in several places besides that felt per vaginam. The upper part extended as far as the under surface of the liver, to which it was adherent. The "uterus" was dissected off from intestine and omentum; parts of the latter being necrotic were removed. A portion of the uterine wall was too closely adherent to be removed with safety and the surface was pared with scissors. The uterus and ovaries were removed and a few bleeding vessels were tied. Some necrotic tissue adherent to the under surface of the liver was scraped and a drain was left in the loin. Meantime the abdominal cavity was thoroughly washed out with saline solution. A packing of iodoform gauze was left as a vaginal drain and the abdominal incision was closed with through-and-through sutures of silkworm gut.

During the operation about two and a half pints of saline solution were injected intravenously and 20 minims of strychnine hypodermically. The patient's general condition was fairly good until near the end, when the pulse became small and weak, and she left the theatre almost pulseless. She had hot bottles, continuous rectal irrigation, and digitalin and strychnine hypodermically. Her pulse became countable, regular, about 170, and she regained consciousness in an hour or two, but she never rallied from the profound shock of the operation, and died in 15 hours.

The placenta was firmly adherent to and incorporated with the uterine wall. The umbilical cord was inserted about the centre. Only over the placental area did the upper part of the body of the uterus show anything approaching the normal thickness; in the other parts it was exceedingly thin, yellowish in colour, and tore readily when handled; there was no obvious muscular structure. The upper part did not bleed when torn. Near the cervix the muscular substance was apparent, but softer than normal and bled on cutting. The fœtus was a male, well developed, looking not much short of full time. The skin was white, and there were no blebs, areas of pigmentation, or shrivelling. The skull bones were well developed but separated, and exposed the membranes of the brain loose and shrunken. The genitals appeared to be nearly fully developed. The length from the heel to the natal fold was about five inches, of the upper limb about five inches, and from the heel to the lower part of the neck about 14½ inches.

Missed labour is so rare an occurrence that in this case the diagnosis was not made with certainty until the sound had been passed into the uterus under an anæsthetic; an attempt to pass the sound previously had been unsuccessful. No reason was found why the contents of the uterus should not have been discharged on May 19th, when there was apparently an attempt at premature labour. There was no tumour in the pelvis. The most interesting feature of the case was the necrotic condition of the uterus and its bearing on treatment. The uterine wall, except at the placental site, was exceedingly thin and friable, and incapable of any attempt at contraction or of being manipulated even gently without tearing. Consequently the treatment usually advocated, and that tried in the first instance—viz., the dilatation of the cervix uteri and the clearing away of the contents of the uterus per vaginam, was inadvisable. It appeared that it would have been impossible to deliver the fœtus per vaginam without rupture of the friable uterus. The fact that an emergency abdominal section had to be performed materially increased the length of time under anæsthesia and the shock of the operation. Had an abdominal section been performed first of all the patient would have had a much better chance.

In the *British Medical Journal* of Sept. 19th, 1908, a case of Missed Labour is recorded by Dr. A. Dempsey in which he dilated the cervix and emptied and washed out the uterus. The patient was seven months beyond the normal term of pregnancy. She made a good recovery. The interior of the uterus had a rough leathery feel. Dr. Oldham, on the other hand, records a case in which the contained mass is said to have worn nearly through the anterior wall of the uterus; and in Sir James Simpson's case, in which the patient died three months after term, the fœtus having undergone fatty metamorphosis, an opening of the size of half a crown had formed between the transverse colon and the uterine cavity, and the uterine walls were as thin as parchment. Hence although in some cases dilatation of the cervix and delivery of the fœtus per vaginam give the best chance of recovery, yet the danger of perforation of the uterus in other cases is so great that it is necessary, whatever the primary treatment adopted, to be prepared for opening the abdomen. The danger of perforation is no doubt greater when, as in the above case, the fœtus is not disintegrated than when fœtal bones are being discharged per vaginam.

The patient was under the care of Dr. T. Jason Wood, through whose courtesy I am permitted to publish the case.

Bradford.

HYDROA GESTATIONIS.

BY E. WARD, M.D. CANTAB., F.R.C.S. ENG.

So little is known of the pathology, the etiology, or the relationship of this remarkable disease that the following case is worthy of record.

A married woman, an octigravida, aged 26 years, came to see me in December, 1908; at that time she was five months pregnant. She complained of an eruption on both legs which she had noticed for about two days, and which was causing great suffering and loss of sleep from intolerable and continuous sensations of itching, burning, and tingling. She had had the eruption several times before, each time during pregnancy, and told me that it usually took ten weeks to cure; first a red and raised patch would appear, always in the same place, and on both legs; then "water" would form over it in blisters. These would join up to one large blister, and then burst, after which the whole area would become yellow and offensive, and the patient would be confined to the house for several weeks more until healing took place. There was no other complaint made, and the appetite always remained good throughout pregnancy in spite of the suffering and sleeplessness.

I found the patient to be a somewhat stout, but healthy, young woman of florid complexion. Her tongue was clean, her pulse was normal, and I could find nothing abnormal about her except the eruption on the legs. On each leg, [illegible] he tubercle of the [illegible] four inches, there [illegible] mb. The eruption was roughly symmetrical on the two sides, but whereas on the left side the leg was encircled, except for an area of normal skin one inch across, on the right side the band only extended round for something more than half the circumference. The reddened skin was hot and tense and raised considerably above the level of the surrounding skin. The surface was uniform and of uniform colour. The margin of the band was irregular but well defined and there were some outlying islands of eruption; the upper margin was more regular in outline than the lower. The affected area was not specially tender to touch, but manipulation increased the irritation. The leg was dressed with unguentum zinci benzoatis spread on lint, which was secured in position with a bandage and renewed daily. Small blisters appeared over the surface of the eruption, which later joined together, and in three or four days there was a [illegible] on both legs. This was [illegible] way and kept clean, and [illegible] normal again. When seen again on Feb. 26th, 1909, there were numerous marks of scratching over the affected area and some reddened and hard [illegible] the scratches. [illegible] return of the [illegible] where it had appeared still remained irritable. The pregnancy continued in a normal way.

The *previous history* of this patient, which was fully investigated to throw light on the eruption, was as follows. During a married life of six years and nine months she had had eight children and one miscarriage; there had been trouble with the legs during each pregnancy, including that which miscarried. The patient was married in March, 1902, when already seven months pregnant; the eruption had then been troubling her [illegible] just before Christmas, 1901. I [illegible] to a male child. In August, [illegible] h to twins, female children; from the sixth to the seventh month of pregnancy the eruption began to trouble her. In 1904, again while six to seven months pregnant, trouble began with the legs, and twin male children were born in August, 1904. A female child was born in August, 1905, and this time the legs were troublesome rather earlier in pregnancy. The miscarriage occurred in 1906, but the patient did not remember how far the pregnancy had proceeded, only that she had a rash on the legs as usual. In 1907 a male child was born, and on this occasion the woman thought she had escaped the eruption; it attacked her, however, the days following labour and ran the usual course. In 1908, when pregnant for the seventh time, the eruption first occurred at the fourth month and recovered in due course, only to reappear in the later months of pregnancy.

This history may be tabulated thus:—

Number of pregnancy.	Period of onset of hydroa.	Date of birth.	Sex of child.
1	4 months.	1902	Male.
2	6-7 months	1903	Female twins.
3	6-7 months.	1904	Male twins.
4	5 months	1905	Female.
5	4 months.	1906	Miscarriage.
6	Puerperium.	1907	Male.
7	Fourth month, relapse at the eighth month.	1908	Female.
8	Fifth month.	Still pregnant *	

* Since this article was written it has been ascertained that a relapse occurred in the ninth month of this pregnancy, but that the condition improved in 14 days. A healthy male child was born at full term.

The *family history* showed no case of a similar disease in any member of the family, and there were no other diseases in the family. The patient is one of 12, all brought up in rather hard circumstances and yet all living. Her father and mother are both aged 46, her five sisters are aged respectively 25, 20, 18, 16, and 13 years, and her six brothers aged 29, 23, 20, 17, 14, and 11 years.

This appears to be a clear example of the so-called erythemato-bullous type of hydroa gestationis, but there are nevertheless a few remarkable features.

1. The toxins of pregnancy had in this case quite an exceptional opportunity to produce their effects, as the pregnancies succeeded one another so rapidly, yet the eruption first occurred, early in the first pregnancy, as severe as [illegible]

[illegible] a band round [illegible] is of interest. [illegible] f "stocking" [illegible] is incidentally [illegible] anæsthesia met with in hysteria, [illegible] that we have much to learn about hysteria.

3. A statement of the patient that the eruption showed a tendency to [illegible] in December each year is partly borne out by [illegible] The reason why psoriasis and [illegible] appear especially at certain times of the year is not yet explained.

4. A study of this case leaves feelings of dissatisfaction with our present method of classifying these skin diseases. [illegible] the one hand to herpetic and bullous [illegible] on the other. A toxin which causes urticaria in one person may cause pemphigus in another, the eruption depending more on the skin of the patient, perhaps, than on the nature of the toxins. Some people blister more readily than others when burnt, and some people bleed more readily than others; the condition known as epidermolysis bullosa is only an exaggeration of the first type; these people blister with a pathological readiness. It will be with dermatitis herpetiformis just as it has been with osteo-arthritis. The joint changes described as osteo-arthritis are now known to occur from a variety of causes—from senile degenerative changes,

for instance; from chronic sepsis, as from the mouth, the nose, gastritis, constipation, or urethritis; and similar changes also occur in chronic rheumatism, in toxæmic arthritis, and in Still's disease; yet there remains another osteo-arthritis which is probably a specific infective disease. Hydroa gestationis is certainly one of the great group of diseases due to the toxins of pregnancy, but its exact relationship to other forms of dermatitis herpetiformis remains uncertain.

Llanelly.

DIFFICULTIES, DIRECT AND INDIRECT, IN THE DIAGNOSIS AND REMARKS ON THE TREATMENT OF CERTAIN FORMS OF DEAFNESS.

BY RICHARD LAKE, F.R.C.S. ENG.,
SURGEON TO THE ROYAL EAR HOSPITAL.

IN our dealings with unpromising cases of deafness other than those arising during, or as the results of, chronic suppuration of the middle ear we are, no doubt, considerably hampered by matters beyond our control. Amongst the foremost of these difficulties is the fact that we are often misled both in diagnosis and prognosis, either by an error in the interpretation of our testing or on account of the still very faulty and uncertain knowledge of the value of our tests, whether considered separately or in the aggregate. In our private practice we are often at a disadvantage, owing to having insufficient time to test completely and work out the case and to the unfortunate necessity of being expected to give an immediate prognosis, and these things, when coupled with the uncertainty of our methods of treatment, develop a further difficulty, which is that being placed in a position of trust by those who seek our advice it is a question as to how long we are justified in keeping them under observation.

In hospital practice there is, I suppose, no branch of medicine or surgery wherefrom any one class of patients derives greater benefit than that which is afforded, by operative or other treatment, to those suffering from suppurative conditions of the middle ear and their sequelæ; but, on the other hand, there is no class of hospital patients whose treatment is so inadequate as is that of those who suffer from perversion of hearing or deafness resulting from any other cause. For we are prepared to acknowledge that it not infrequently taxes us beyond our ability to give an accurate diagnosis and prognosis in similar cases in our private consulting-rooms, where at least 20 minutes, and often double that time, is devoted to investigation; and how, then, is it possible that in a hospital out-patient room, with its hurry and bustle, we can devote, one may say, even a tithe of the requisite time to each case that comes before us? For to be able to test a case properly it is necessary that much patient study and practice has been devoted to obtaining the requisite knowledge, and the greater the difficulties appearing in any given case, the greater is the necessity for quiet, and the more important it is in the interests of the patient that, comparatively speaking, time should be no object. It necessarily follows that a considerable part of this testing, if it is done at all, must be delegated to others, who may, without disparaging their assistance, be acknowledged to be wanting in that experience to which we have alluded. When to these difficulties is added the frequent inability on the part of hospital patients to grasp intelligently what is required of them, the strain and difficulty attendant on the work are greatly increased. Besides this, most of our important tests have to be considered as dealing with a dual individuality, as a comparison has frequently to be made between the tester and the tested, and very slight inaccuracies—whether they be due to inattention or what not—on the part of the examiner will give rise to errors. Nor does the importance of the personal element stop here, for there is no doubt that in testing low notes—that is, notes from the lower part of the scale towards the higher—these notes are capable to a certain extent of stimulating a sluggish auditory nerve, and so giving the slight fictitious impression of fair hearing when the upper notes are reached, and the striking of a fork in such a way as to produce over-tones may enable a patient who would be unable to hear the fundamental tone to hear the over-tone, and thus give rise to an error which may be of considerable importance from the point of view of prognosis. This matter of stimulating a sluggish nerve is perhaps most easily observed when using the Galton-Edelmann whistle, for if the tones are tested from above downwards, and a note is kept of the first tone which is heard, and then the process is reversed, it will be found that the patient is usually able to hear an appreciably higher note than that previously noted.

It often happens that some of our most interesting cases are those which for some reason or other have a claim on our services, and in this instance the financial side of the matter is eliminated, and therefore treatment may be continued for a longer period. It is from these cases, and not from our hospital practice, that we can acquire the most useful experience.

How are we to get over all this? We have practically no endowed chairs for the study of medicine in this country, and it therefore follows that all the aid we can hope for must come from the work we do and the results we obtain. My purpose, however, is not to give vent only to regrets, although it did seem necessary that I should explain, even at some length, a few of these contributory causes to our difficulties in the way that they appeal to me, and some of the reasons for our slow progress; although the most pessimistic amongst us must admit that we are no longer dependent upon the continental schools for our teaching of otology, and that much good work is being done in the British Islands.

This brings us exactly to the question of what we mean by unpromising cases of deafness, for these are the ones I allude to, and I think we may thus classify them: 1. Cases of slight unilateral paracusis or disturbance of hearing, in which no abnormality or departure from the normal can be detected in the tuning-fork tests, but only a diminution in the distance at which a whisper is perceptible. These cases are not improved by inflation, and they are in my opinion due to early nerve lesions, in which there is more or less loss of perception for fine and distant tones, which is only to be detected by whispering with residual air. 2. Cases of well-marked deafness with a double negative Rinné (Group ζ of my classification) with fixation of the malleus due to cicatricial changes within the middle ear, subsequent to previous inflammatory attacks, acute or subacute. These come under the heading of what is known as chronic dry catarrh of the middle ear in its most intractable form. 3. Cases of otosclerosis (Groups δ and ζ of my classification) usually associated with tinnitus or vertigo or both. 4. Deafness, &c., due to arterio-sclerosis.

Now as to the treatment of these various classes, it is unfortunately true that the first class seems to be very intractable, but this is one of the forms of deafness in which electricity offers some hopes of amelioration. With regard to the second group, it should not be included with those cases to which we have alluded here as unpromising unless the usual methods of treatment employed in such cases have failed to afford relief—that is to say, inflation of the middle-ear and the use of drugs, together with careful attention to nasal hygiene, including, if necessary, any operative measures indicated. There are certain tests which should be employed in these cases in order to obtain the most accurate information possible as to the condition of the ossicular chain. Thus by the use of Gellé's test we may be able to demonstrate that the stapes is freely mobile, although unfortunately we cannot ascertain with certainty by this method when the stapes is fixed. In these cases also it is very important that a careful investigation as to the mobility or otherwise of the malleus be undertaken. Thus in the second group, if the malleus is found to be immobile, whatever information we may derive from Gellé's test as to the condition of the stapes, one should proceed with that form of treatment which is most likely to restore its mobility, and it is in this class of case, if one is able to restore mobility to the malleus, that good results are to be obtained, for its mobility appears to have a distinct effect on the loss of hearing.

In the first place, otomassage should be employed and should this fail to give the necessary relief one may then, I think, proceed immediately to more drastic measures directed to the malleus itself, or one may try the effect of a hypodermic injection of fibrolysin or the internal administration of thiosinamin. The more drastic measures alluded to are attempts to directly mobilise the malleus by means of a steel probe cut to receive the short process and protected either by a small piece of cotton or guttapercha. Either a general anæsthetic is administered or the part anæsthetised by Neumann's method and the malleus forcibly mobilised. In doing this the external ligament is ruptured and the shortened tendon of the tensor tympani is able again to come into play. Inflation and otomassage should be regularly employed for some little time after the mobilisation has been accomplished. I have employed this method now for a considerable time and have obtained some most excellent results in cases which otherwise seemed doomed to life-long deafness.

In the third group, that of otosclerosis, there are certain cases, indefinite in number, but all too few, and yet a proportion which must not be neglected, in which, though from the very nature of the disease cure is impossible, a certain degree of relief may be afforded, and this improvement is often sufficiently marked to be a source of gratification to the patient. It is to be obtained by the use of the otomasseur, and the greater the number of revolutions per minute the greater the improvement. The exact rationale by which this improvement is obtained is certainly obscure, but it is most probable that it largely increases the blood-supply of the part, and has somewhat the same effect as that resulting from the employment of Bier's method of local congestion. In combination with this form of treatment I frequently inject a few minims of a fluid ointment containing 1 per cent. of red iodide of mercury. The ointment has great advantages over a solution, because one is able to use it stronger, it remains longer in contact with the part to which it is applied, and it does not lead to destruction of tissue. Occasionally quite brilliant results follow this treatment, and it also possesses the advantage that one is usually able in a very short time to demonstrate clearly either its utility or the reverse.

As regards the employment of otomassage, the best results seem to be derived from machines which will produce a high rate of velocity, up to 15,000 or 20,000 vibrations per minute. In fact it seems to me that we can consider the minimum pace as regards the number of vibrations per minute from which good results may be expected in cases of otosclerosis not to be less than 2000. It is no doubt difficult to lay down precise rules as to the time at which the otomasseur should be employed, but one may say this, that if there is any uncertainty as to the fitness of the case for its employment, half a minute should be the maximum time to commence with. One may say with decision that it is useless, if not positively harmful, in almost all cases where the Rinné test is positive and always where there is suppuration of the middle-ear, although I have seen patients so treated in whom one or other of these conditions was present. Where the Rinné test is positive, if this method of treatment be employed, the deafness will be increased and tinnitus may be induced unless, as given later, with a fixed malleus.

As there seems to be a considerable want of definite rules as to the employment of this valuable mode of treatment one may briefly enumerate the more important ones. Fixation of the malleus is at all times an indication for its use, though if there be a positive Rinné it must be very carefully employed and for more than 15 seconds at the commencement. Any tendency to giddiness, deafness, or tinnitus should be immediately noted and if necessary the treatment entirely suspended. This is the only instance in which a positive Rinné admits of the employment of the otomasseur. All cases of otosclerosis demand its employment. The main point to bear in mind is that if it is possible to act upon a mobile stapes otomassage will do harm and not good, except in those cases where the malleus is so fixed that no movement is imparted to the stapes, although it were otherwise capable of mobility. The rôle played by fixation of the malleus in cases of intractable forms of deafness of only moderate severity is very large as we have stated, and if its mobility can be restored quite excellent results follow in a large number of cases. As has been stated earlier in this paper, it is important that these cases should be seen from time to time in order to prevent re-fixation or recurrent ankylosis.

W[illegible] ver[illegible] me[illegible] may be afforded. This, however, is not obtained by means of aural therapeutics, but the cases should be transferred for treatment to the physician. If, as seems possible, otosclerosis has a definite connexion with rheumatoid arthritis, the newer forms of treatment which are suitable for that disease may possibly aid us in the earlier stages of this condition.

In conclusion, it is well to state emphatically that in all but the second group of cases under consideration no operative procedure whatever appears justifiable. In fact, it seems to me that to recommend such procedures shows an ignorance so grave that it is difficult to put the matter sufficiently strongly.

Harley street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF HAIR-BALL IN THE STOMACH.

BY G. P. NEWBOLT, F.R.C.S. ENG.,

AND

R. A. JONES, L.M.S.S.A. LOND.

ALTHOUGH a number of cases of hair-ball in the stomach have been recorded by different observers they can hardly be described as common. At the same time it is well to bear in mind the fact that they do occur when dealing with abdominal tumours situated in the epigastrium in young females. Knowsley Thornton, in THE LANCET of Jan. 9th, 1886, describes a successful case, the second on record. In 1895 Paul Swain describes a third, and they occur at intervals in the literature after this date, but the majority of those described have been found post mortem. Although common in animals, in which the hair tends to "felt," the mass becomes ball-shaped, whilst in the human subject the hair takes the shape of the stomach and r[illegible] condition. In many of the [illegible] insanity, but not in all. On[illegible] intelligent, and in my own [illegible]ances quite sane. If not removed the tendency is for the mass to cause ulceration and perforation or vomiting and death from exhaustion. In a case described by Dr. H. Mallins the ulceration had exposed the pancreas and also the transverse colon. The diagnosis has to be made from splenic tumour, retro-peritoneal sarcoma, pancreatic cysts, and tuberculous glands, but the most important information to get is the early history with regard to eating hair, string, &c. In Swain's case the mass weighed 5 pounds 3 ounces, the largest on record, and the stomach incision was six inches long, the mass was broken up before removal, and the stench was very offensive.

In August, 1908, whilst on a holiday in North Wales, I (G. P. N.) saw a young woman, a dressmaker by occupation, in consultation with Mr. R. A. Jones of Menai Bridge. She was 22 years old and had b[illegible] plaining of pain in the epig[illegible] flatulence and constipation. [illegible] by lying down. She had to lie in bed from October until December, 1907, on account of these symptoms, and during this period she lost flesh. There was a history of her having swallowed a piece of string half a yard long before the commencement of this illness. When doing her hair she was in the habit of putting the ends of some of the plaits into her mouth. She had also swallowed some bits of cotton. The girl was not hysterical, but was very anæmic. In December, 1907, she passed a ball containing hair and a piece of string with some bits of cotton, but as her symptoms continued she went into a hospital in May, 1908, for treatment, but only remained there for some ten days, after which she returned home. On examination I found her to be a very anæmic girl, complaining of dyspeptic symptoms and unable to take much food on account of pain. In the left hypochondriac region extending across the median line to the right was a large moveable abdominal tumour. It was smooth and flat on palpation, painless to the touch, and moveable from side to side. Apparently it was in connexion with the stomach but its exact nature was not diagnosed. An x ray photograph taken after the administration of bismuth showed a beautiful picture of a tumour occupying the whole of the stomach area and extending into the duodenum.

On Sept. 29th, the patient being under ether, the mass could be moved freely about the abdomen, but lay on the left side opposite the umbilicus when not disturbed. It felt quite solid and hard. A free incision was made in the left linea alba and the abdomen opened in this situation; the stomach at once came into view, and on examination it was evident that the tumour consisted of a mass contained in the stomach itself. The organ was brought outside the abdomen and packed around with gauze; a transverse incision was made from the lesser curvature across the stomach to the greater curvature and a mass of hair was exposed. After its removal the incision was closed with two layers of suture, one taking all the coats of the stomach and the second (a Lembert) taking the peritoneum. Some adhesions at the cardiac end were dealt with and the abdomen was closed. The operation was unattended by complications and the patient returned home on Oct. 23rd. Two or three days later she had a severe attack of gastritis and was very ill for some days. I saw her on Nov. 5th when she was better, and later I heard that she was quite well again. The mass removed was composed of black hair and weighed 9 ounces. It was rather offensive to the smell and the portion which was in the duodenum was bile-stained. It was 7 inches long, 3½ inches broad, and 2 inches in thickness.

Osler, fourth edition, says there are 16 cases in the literature and the following are some of those on record (no doubt there are many others):—

Knowsley Thornton, THE LANCET, Jan. 9th, 1886, p. 57; recovery. Schonborn of Königsberg, Langenbeck's Archiv, 1883, vol. xxix.; recovery. Bandemant, Journal de Médecine, vol. ii., p. 507, 1779. Pollock, Transactions of the Pathological Society, 1851–52, p. 327. George May, Medical Association Journal, vol. ix. Russell, Medical Times, 1869. Inman, Medical Times. Best, Brit. Med. Jour., 1869. Sir W. Gull, Transactions of the Clinical Society, vol. iv. Paul Swain, THE LANCET, June 22nd, 1895, p. 1581; recovery. Berg of Stockholm, Nordiskt Medicinskt Arkiv, recovery. E Percy Paton, Transactions of the Clinical Society, January, 1902, recovery. H. Mallins, THE LANCET, June 6th, 1903, p. 1592. S. S. Rather, Human Hair in the Stomach, Texas Medical Journal, Austin, 1905–06, vol. xxi. p. 358. G. F. Still, THE LANCET, May 16th, 1908, p. 1412; recovery.

A CASE OF WOUND DIPHTHERIA.

By **RANDAL HERLEY**, L.R.C.P. & S. EDIN., L.F.P.S. GLASG.,

HOUSE SURGEON, GENERAL INFIRMARY, DEWSBURY.

ON May 21st, 1907, a youth, aged 18 years, struck the corner of a shovel with the back of the left hand whilst "taking a jump" in a field. One of his companions used the shovel for marking the jumps. The wound was a "small hole"; it did not bleed much, and the boy dressed it with adhesive plaster. On June 16th he complained of pain in the left axilla, the left hand was swollen, and, acting on the suggestion of a neighbour, a bread-and-milk poultice was applied by the lad's mother. On the 17th he came to the infirmary, and on examination I found a sore on the back of the left hand which in many ways resembled a well-developed anthrax pustule; the hand was swollen and the axillary glands were enlarged and tender. The temperature and pulse were normal; there were no soreness of the throat and very little constitutional disturbance. I sent a swab to the Public Health Laboratory, Wakefield, and received the following report on June 19th:—"No anthrax bacilli could be found in this specimen, either on immediate examination or as the result of inoculating culture media. Typical diphtheria bacilli, however, were present in large numbers." A swab from the throat was examined with a negative result. As to treatment, the wound was scraped, pure carbolic acid was applied, and 4000 units of antitoxin were injected under the skin of the abdomen. The dressing was a boric acid fomentation. The boy was quite well in three weeks. I was unable to trace the source of the infection.

In Osler's "Principles and Practice of Medicine," I find the following:—"Wound diphtheria may occur without demonstrable connexion with cases of diphtheria and without affection of the throat in the individual attacked, but such occurrences are rare."

Dewsbury.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Gastro-intestinal Crises from Effusion into the Bowel Wall.

A MEETING of this section was held on June 22nd, Dr. S. J. GEE being in the chair.

Dr. G. A. SUTHERLAND read a paper on Gastro-intestinal Crises from Effusion into the Bowel Wall. This is printed in full in this issue of THE LANCET (see p. 1817).

In the discussion that ensued, Mr. ARTHUR EDMUNDS showed coloured pictures and drawings illustrating the case of a boy, three years of age, who was suddenly seized with acute abdominal pain and vomiting. On admission to hospital an indefinite swelling was felt and intussusception was diagnosed. When laparotomy was performed the appendix was found to be hæmorrhagic and was removed; an intussusception was not present. The wall of the appendix was swollen and infiltrated with blood. Mr. Edmunds showed that in cases of spontaneous recovery from intussusception, the site of the intussusception was marked by a pallid œdematous area.

Mr. HUGH LETT observed that in cases of intussusception, which occurred mostly in infants, what guided him in determining on operation was the presence or not of a tumour. In his experience a tumour could be felt in most cases of intussusception.

Dr. SUTHERLAND, in the course of his reply, pointed out that the presence of the pallid œdematous area described by Mr. Edmunds furnished a means of differentiating between a spontaneously reduced intussusception and a case of hæmorrhage into the bowel wall. In regard to the frequency of a tumour being felt in cases of intussusception, Dr. Sutherland thought that Mr. Lett put the incidence of their being observed higher than was generally taught, but the difference was probably due to the methods of examination followed.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Exhibition of Cases.—Congenital Obliteration of the Bile-Ducts.—Congenital Dislocation of the Hip-joint.

A MEETING of this section was held on May 28th, Mr. R. CLEMENT LUCAS being in the chair.

The following resolution, sent up by the Council, was passed by the meeting:—

> That in the opinion of this meeting it is desirable that the Board of Education should issue forthwith a complete set of forms for use in the medical inspection of elementary school children, in accordance with circular No 582 issued by the Board on Jan. 23rd, 1908, and should issue definite instructions to medical officers as to the manner in which the medical inspection shall be carried out.

Dr. F. LANGMEAD showed a case of Facial Irritability of 15 months' duration succeeding tetany in association with dilatation of the large intestine. The girl, aged eight years, was admitted to hospital for tetany in April, 1908. Her facial irritability was pronounced on both sides. No signs of organic nervous disease were found. The colon was dilated. Attacks of laryngismus stridulus occurred. The urine contained indican. The colon was daily washed out, whilst castor oil and salol were given by the mouth. Saucrin, koumiss, and thyroid were also used without effect. The washing out was discontinued and energetic treatment with bismuth and opium applied. Enemata and massage were then used for a week with improvement, and after two months she had gained four pounds in weight and the tetany and laryngismus had subsided. The massage was continued for three months. The signs of dilatation of the colon then disappeared, but the facial irritability had persisted. A month or two ago she had another attack of tetany with vomiting. Dr. Langmead referred to nine cases exhibiting relapsing tetany, dilated large intestine, and unhealthy offensive motions occurring at an age beyond that of the usual infantile tetany. All had died except the patient exhibited. On tapping the cheek of the child an immediate rapid contraction of the muscles on the same side of the face was elicited.—Dr. ROBERT HUTCHISON asked [illegible] the condition was congenital or not.

Dr. G. CARPENTER showed: 1. A specimen of Hypertrophic Stenosis of the Pylorus removed from a three weeks old female child. 2. A specimen of Morbus Cordis with Complete Transposition, including the liver, spleen, and large intestine; there was also a cyst in the tongue and a solitary kidney. The condition was not diagnosed during life, and no symptoms were observed pointing to heart disease. The child became worse and had fits two days before death.

Mr. CLINTON T. DENT gave [illegible] tion of the Movements of the S[illegible] Abdominal Wall in a case [illegible] Stenosis of the Pylorus. The [illegible] and weighed 8 pounds on birth and 5 pounds on admission to hospital, 11 days before death. It was not considered safe to operate. The pylorus could be felt dis[illegible] that the post-mortem examination showed the whole pyloric canal to be in a state of hypertrophy. The mucous folds were well marked, and he had no doubt were, as is usually the case, the final cause of the obstruction.—Mr. LUCAS expressed the indebtedness of the section to Mr. Dent for his excellent demonstration.

Dr. ERIC PRITCHARD showed a case of Unilateral Hypertrophy of the Hand from Macrocheiria in a boy aged 10 years. The left hand was observed to be larger than the right shortly after birth. A capillary nævus was also noticed to extend in an irregular manner up the arm and down the left axilla. [illegible] to [illegible] tha[illegible] other member of the family. The left hand was larger than the right in the ratio of 9 to 5 as determined by displacement of water. [illegible] though it [illegible] The [illegible] mina[illegible] o be a [illegible] Dr. [illegible] eased blood supply dependent [illegible] vessels, or the arterial vessels, or the lymphatic vessels, or any combination of the three.

Dr. PRITCHARD also showed Symmetrical Helical Fistulæ with Branchial Fistula in an Infant. The case resembled one shown by Mr. J. Howell Evans at the June meeting, 1904. It showed two symmetrical fistulæ at the anterior aspect of the helix of the ear about two millimetres in diameter and the same in depth. At times they both emitted a thin secretion. On the left side of the neck, at about the level of the anterior margin of the sterno-mastoid muscle, was a small depression representing in the usual position the vestigial remains of what was once a branchial cleft. In front of the right ear there was a small nodule or preauricular tubercle. No other stigmata were shown. Similar helical fistulæ had occurred in several members of the family. The mother, who was present, showed them on both ears, and so did four of her children, deceased. The maternal grandmother and two of her sisters also had symmetrical [illegible] fistulæ.

Mr. J. A. BOOTH and Mr. J. HOWELL EVANS showed [illegible] of Conjoined Twins. Mr. Howell Evans said that Mr. [illegible] had attended the mother of the twins, but they were born before his arrival. The method of presentation seemed to have been normal, the cephalic position for the first child, the legs of the second [illegible] down, and the birth was [illegible] the type of twins which [illegible]—namely, those joined by [illegible] The radiograph [illegible] were joined with more than fibrous [illegible] c genitalia were complete, there [illegible] e rectum of the second child opening into the rectal ampulla of the first. The mother was one of twins and there had been other twins in her family. Several members of the father's family had had congenital heart disease. The twins were now about a year old. C[illegible] lived to considerable age [illegible] bronchitis which bega[illegible] administered to both, but in spite of this the second child also had bronchitis. Separation had not been attempted on the ground that the twin which seemed to be weaker appeared to have the greatest amount of alimentary canal.

Dr. G. A. SUTHERLAND showed for the second time a case of Cirrhosis of the Liver in a boy, aged 11 years. Ascites had recurred and 150 ounces of clear fluid had been drained off, since when tapping had been repeated at intervals. He had had seven doses of fibrolysin without any effect at present. Dr. Sutherland asked whether the surgeons could [illegible] the case was one of chronic recur[illegible] s asked what Dr. Sutherland [illegible] the condition and what was the [illegible] r. SUTHERLAND replied that there was no evidence of adherent pericardium. He did not know that syphilis had been excluded, but mercurial treatment as a method of cure had been tried in vain. Still, in advanced cases of syphilitic liver this would be the case. The mother died two years ago from alcoholism, but there was no evidence of the patient having been given alcohol.

Mr. SYDNEY STEPHENSON showed a case of Oxycephaly in a boy, aged 32 days, who was admitted to hospital with ulceration of the right cornea. The right eyeball protruded from between the eyelids immediately after birth. The labour was easy. The eye bulged forth whenever the baby screamed or was bathed. The child weighed 5 pounds, had a red and wrinkled skin, loud "snuffles," and a slight papular rash on the hands and arms and trunk. The skull was typical of oxycephaly, the frontal region rising steeply and overhanging the face. The cranium was deficient as regards total size and capacity. [illegible] present. [illegible] ent though [illegible] orbits were clearly deficient in depth.—Mr. LUCAS said that those interested in such [illegible] that at the Royal College [illegible] skulls had been arranged i[illegible] Dr. A. Keith.

Dr. H. MACCORMAC showed a case of Congenital Laryngeal [illegible] a Congenital Oblitera[illegible] rrhosis. The patient, a boy, aged three months, was admitted to hospital suffering from malnutrition and jaundice of moderate degree. The mother said the child had been jaundiced from birth. No other member of the family had jaundice. The mother had had no miscarriages. The child's liver was enlarged but not tender. The fæces were acholic and rather copious. The [illegible] two granular casts. [illegible] cells, 3,900,000; [illegible] by Dr. J. C. G. Ledingham): Polymorphonuclears, 61 per cent.; large lymphocytes, 26 per cent.; eosinophiles, 3 per cent.; small lymphocytes, 1 per cent. In a month the child had gained one pound and the jaundice began to diminish. The spleen, however, had increased in size, for its lower border could be felt one inch below the costal margin. The improvement then ceased, and after two months in hospital the temperature was frequently raised to 101° or 102°. At the age of five months convulsions set in and the child died. At the necropsy the gall-bladder was represented by a fibrous [illegible] bile-duct was hardly pervious. These [illegible] ere doubtless partly inflammatory in [illegible] were unaccompanied by congenital [illegible] the body. The hepatic cirrhosis was found to be chiefly of interacinous distribution, and was doubtless to some extent a result of the obstruction.—Dr. H. D. ROLLESTON said that Dr. Weber's case differed from the ordinary run of cases of congenital obliteration of the bile-ducts. The distribution of the fibrous tissue was different, and there was a curious condition about the [illegible] enlarged [illegible] together [illegible] in the portal fissure by an inflammatory condi[illegible] ducts. The question arose as to whether it might be a case in which the obstruction of the ducts was produced outside the ducts. The only point against that was the practical obliteration of the gall-bladder. His own belief was that there was no congenital narrowing of the ducts at first, but that from the beginning it was an inflammatory toxic process. This was contrary to the view now held by Dr. Thompson and advocated in America.

Mr. A. RALPH THOMPSON read a paper upon Congenital Dislocation of the Hip-joint, and showed a number of specimens clearly illustrating the points which arose. He put forward the view that the changes associated with pressure or static dislocation of the hip are too frequently regarded as primary and as producing the dislocation, whereas in many cases of congenital dislocation no deformity is noticed until the child begins to walk, and the deformity occurs in well-developed female children in whom the mechanical conditions are more likely to produce dislocation at the time of the adoption of an erect attitude than is the case in males. The changes found are a shallow and triangular acetabulum, a small flattened head of the femur with a short and anteverted neck, deficiency in the iliac segment of the acetabulum and hour-glass constriction of the capsule, a stretched or absent ligamentum teres, and some coxa valga and shortening of the leg below the knee. These conditions could all be explained by considering the mechanics of the joint in children of two to three years. Mr. Thompson gave full demonstrations of these points.—Mr. HUGH LETT said the section was very much indebted to Mr. Thompson for his paper, which had evidently been produced with a great amount of care, and much work had been entailed. The theory he brought forward was very interesting and important. All who had seen cases of congenital dislocation of the hip must have been struck with the remarkable fact that many cases did not appear to have anything wrong until they were three or four years of age. He would like to consider the paper more carefully before speaking very decidedly about it, but there was much, from an anatomical point of view, in what was brought out, particularly in connexion with the fœtal pelvis and the relations of various lines of force in male and female. He believed Mr. Thompson's view would be accepted by very many authorities, and those who did not accept it would be bound to weigh it with great care before putting it on one side.—Mr. LUCAS said that he had been accustomed to point out that when a child had been taken off its walking on one limb from any cause not only the thigh but the foot and all the bones of the limb were shortened as a result of the lack of use. He understood from the argument that as the female was less protected than the male from dislocation of the hip, it was unwise to place the female child on her feet so early as the male child.

EDINBURGH OBSTETRICAL SOCIETY.

Manipulation and Axis Traction.—Peritonitis and Fibroids.

A MEETING of this society was held on June 9th, Professor W. STEPHENSON (Aberdeen), the President, being in the chair.

The PRESIDENT read a paper on the Value of Manipulative Action in combination with Axis Traction in Forceps Cases. He said: In recent times the principle of axis traction has so monopolised the obstetric mind that in some quarters direct traction in the line of the pelvic axis is the sole engrossing idea in instrumental delivery. The object should be to deliver skilfully and with a minimum of force, and this requires other methods to be employed besides simple traction in one line. The main error lay in discarding the use of the ordinary handles and extracting solely by the traction rods. There are two factors, the pelvic walls and the fœtal head. In the system of axis traction as now practised, the attention is concentrated too much on the curve of the canal, the lie of the head is left out of account. Forceps are often required in a normal pelvis due to the unfavourable relations of the head, yet in the latest approved forms of forceps the parts whereby change in position can be facilitated have been rendered worthless for the purpose. Those who discard the handles throw the burthen of effecting the movements of adaptation wholly on pressure between the head and the maternal tissues. In simple cases with normal conditions traction in the pelvic axis is sufficient, but where abnormal conditions are present the necessary movements can be effected with less force and less risk of injury by a gentle manipulative action through the handles than by a strenuous pull in one line. This manipulative action is to favour and to effect, by means of the handles, such movements of the head as experience has taught are necessary in delivery, as flexion, rotation, or a combinatio of the two. Manipulation does not mean the pendulum action nor twisting an occipito-posterior position into a anterior. Many generally accepted views misrepresent th mechanism of labour. So-called flexion of the head is no rotation on an *internal* axis, but partakes of the nature of *rolling* of the head on the frontal bone as a pivot by a arrest for the time being of the forehead while the occipu is free to move. The occiput does not rotate in the pelvi into the conjugate diameter and the face into the hollow o the sacrum. In its exit from the bony canal the head lies i the oblique diameter of the outlet, the posterior parietal bon on a lower level than the anterior. From this position th head passes over the perineum, not by extension as usuall described, but by a combination of two rotations, the on being the familiar wheeling of the head round the pubes, the other a rotation whereby the long diameter of the head passes from the oblique nearly into the conjugate and th two parietal tuberosities come to be on the same level. To discard the use of the handles is to throw away much valuable information which is transmitted through them to the hand, regarding the command of the blades over the head, whether the hold is good or the forceps are slipping; the hand is quicker than the eye to detect the forward movement that guides the direction of traction. When held properly the grasp should in no way interfere with, but on the contrary aid, the natural rotations; recession of the head can also be aided and too forcible or precipitous expulsion resisted. Thus the hand works intelligently with nature. The special conditions which can be helped by manipulation with forceps were discussed and demonstrated on models, such as that of favouring the rolling movement of the head at the brim and adaptation of the head to the widest diameter of the brim in flat pelvis. He combined the axis traction to the previous form of forceps by applying a hook on the blades above the handles and pulling backwards with it. He considered the older form of forceps much preferable to the axis-traction form.—Dr. A. H. F. BARBOUR was much interested in the details of the manipulations that could be effected by the forceps of Sir James Y. Simpson. The Milne-Murray forceps differed from them in that one could not control the handles in the same way. With the axis-traction forceps the operator literally worked in the dark, leaving the head to find its way through the pelvis by pulling in the line of least resistance. For the ordinary practitioner he believed this latter was the best, but it was very interesting to find that the old forceps could effect the same with skilled manipulation.—Dr. R. G. MCKERRON (Aberdeen) referred to the fact that the President had shown that traction in the axis was not always the best and often required too much energy, and that there were cases where the axis of traction, as indicated by the rods, was not true. Too much attention had been bestowed on the pelvis to the neglect of the position of the head.—Dr. F. W. N. HAULTAIN said that there was no comparison between the old forceps and the axis traction, but the President had stated a good case for manipulation as well as pulling. Labour was the accommodation of an irregularly shaped body passing through an irregularly shaped canal, and during this process two powers were at work, one pressing from above, the other resilience from below. The process stuck at times; then an extra force was needed, or moulding, or manipulation, or adaptation. All would agree that manipulation could do a great deal with traction.—Dr. JAMES RITCHIE and Dr. J. HAIG FERGUSON also discussed the paper, and the PRESIDENT replied.

Dr. JOHN MCGIBBON read a paper on Peritonitis as a Complication of Fibroids, specially in association with Torsion of the Pedicle, with an illustrative case. The patient, aged 31 years, was seized suddenly with violent abdominal pain and vomiting. In 12 hours she showed all the symptoms of peritonitis. The symptoms subsided in ten days. Operation was then performed and revealed a fibroid with twisted pedicle. Noble and Steinbüchel had described similar cases. Gillmore had recorded a case which had been mistaken for appendicitis. Dr. McGibbon decided against immediate operation at the onset of the symptoms partly on account of the amount of shock present.—Dr. HAULTAIN considered immediate operation always the best.—Dr. BARBOUR did not believe anything could be gained by delay in operating.—The PRESIDENT also discussed the paper.—Dr. MCGIBBON replied.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A general meeting of this society was held on June 11th.—The following officers, amongst others, were duly elected by ballot:—President: Dr. Leonard Williams, London. Vice-Presidents: Dr. Charles Begg, Bath; Dr. Samuel D. Clippingdale, London; Dr. T. F. Gardner, Bournemouth; Dr. W. R. Huggard, Davos Platz; Dr. W. Black Jones, Llangammarch Wells; Dr. Percy G. Lewis, Folkestone; Mr. A. L. Mackenzie, Bath; Dr. F. A. de T. Mouillot, Harrogate; Dr. F. M. Sandwith, London; Dr. Ernest Solly, Harrogate; Mr. G. Hobson Thompson, Buxton; and Dr. Christopher Vise, Tunbridge Wells. Chairman of Council: Dr. Alfred F. Street, Westgate. Honorary Treasurer: Dr. R. Fortescue Fox, London. Librarian: Dr. Harry Campbell, London. Honorary Secretaries: Dr. Septimus Sunderland, London; and Dr. Mouillot. Dr. W. J. Tyson (Folkestone) and Dr. A. F. Street (Westgate) were appointed scrutineers, and Dr. A. Morison and Mr. Ernest Clarke were appointed auditors for the past session.—The report of the council for the past year was received and adopted. The question of amalgamation with the Royal Society of Medicine was discussed, and it was resolved that the meeting approves the recommendation of the council that the society shall become in October next a section of the Royal Society of Medicine.—An ordinary meeting was then held, at which Sir James Barr (Liverpool) delivered an address entitled, "The Peripheral Circulation and its Treatment."

Reviews and Notices of Books.

Oxford Medical Publications: A System of Diet and Dietetics. Edited by G. A. SUTHERLAND, M.D. Edin., F.R.C.P. Lond. London: Henry Frowde and Hodder and Stoughton. 1908. Pp. 893. Price 30*s.* net.

THE subject of diet, both in health and disease, is one upon which it is most essential that the practitioner of medicine should be thoroughly well informed. A practical treatise on this subject should, therefore, always be welcome. Dr. Sutherland in his preface points out that until our knowledge of physiology is more perfect than at present the scientific basis of dietetics must be an unstable one; but that since patients must be dieted, practical experience, controlled by such scientific information as is obtainable, must be relied on. He has accordingly chosen his collaborators because of their special experience of the subjects entrusted to them, and the articles contributed by them represent their own views and practice, and not a compendium of the opinions of different authorities, although these are in many instances included and discussed.

Sir Lauder Brunton contributes an introductory chapter on general principles. The nature of various diets, the effects of cooking, the uses of condiments and stimulants, the processes of excretion and metabolism, are briefly considered. Dr. Harry Campbell follows with an interesting and learned article on the evolution of man's diet. From a study of the changes in diet in the Primates he separates certain periods, and traces the evolution of hunting, cooking, and eventually of cibiculture, and shows the effects these have had upon the nature, quantity, and condition of man's food materials. Dr. E. I. Spriggs gives a clearly written and scientific account of the physiology of digestion, absorption, and nutrition, which is more up-to-date than the usual chapter of this kind in works on dietetics. His description of the digestive processes includes an account of the various ferment actions and of the mechanisms by which they are brought into action, including the hormones. He also discusses the formation of the amino-acids as the final products of intestinal digestion and the manner of their metabolism, including their reintegration into tissue proteins. Dr. Spriggs also contributes a chapter on the results of experimental work on diet. The physiological heat values are given, the question of protein requirement is considered, and various diet scales are analysed. The chapter as a whole gives an interesting *résumé* of the scientific principles of dietetics.

Dr. Edmund Cautley writes of diet cures and special diets, of patent and proprietary foods, and of the invalid's dietary. The various special diets are described with their uses and with sufficient detail to render it practicable to prescribe them. He notes the treatment by butter-milk and by lacto-bacilline, and gives details with criticism of vegetarian, fruitarian, and other dietaries. His chapter on patent and proprietary foods contains a useful classification and gives analyses of the most important, many of which are quoted from THE LANCET. In regard to the invalid's dietary, he gives directions for the preparation of various food substances which should be very useful. The subject of the use of alcohol in health and disease is discussed in a critical and temperate manner by Dr. Harry Campbell, and his recommendations are practical and free from bias. The chapter on artificial methods of alimentation by Dr. Francis D. Boyd, containing full accounts of rectal feeding and of the subcutaneous administration of food substances, is one worthy of special note. The value of these procedures is critically analysed, and the results of special researches conducted by the writer are included. Dr. Claude B. Ker discusses diet in fevers. Special attention is given to the various diets which have been employed in enteric fever, and full details are included of the modification necessitated by the complications which occur, and also of the diet in convalescence. The diet in tuberculosis is dealt with by Dr. N. D. Bardswell and Mr. John Ellis Chapman. The general principles underlying the construction of diet scales for patients suffering from pulmonary tuberculosis are enunciated, and various diets are given with their caloric values, including special forms adapted to the requirements and resources of the leisured and working classes respectively. The diets adapted to various complications such as laryngeal tuberculosis, hæmoptysis, anorexia, and diarrhœa are also given.

Dr. A. P. Luff gives practical and explicit directions regarding the important subject of the diet in gout, rheumatism, and rheumatoid arthritis. Dr. J. Rose Bradford indicates the general principles for the differentiation of the different varieties of diabetes and for the choice of a diet best suited to each. The question of the degree to which carbohydrate foods may be permitted and the selection of the various articles of diet are carefully described. Obesity is discussed by Dr. Edmund Cautley. Numerous special diets are given in detail, and the chapter affords a useful study of the dietetic restrictions recommended in the treatment of this condition. The diet in arterio-sclerosis is dealt with by Dr. Harry Campbell. The difficult subject of diet in diseases of the stomach and intestines receives careful consideration in the two articles contributed by Dr. Herbert P. Hawkins, whose classification is convenient. Here the directions given in regard to the appropriate methods of feeding in gastric and duodenal ulcers, in mucous colic, and in constipation are all worthy of mention from their practical nature and from the clear and explicit manner in which they are set forth. Dr. W. Hale White gives an account of diet in diseases of the liver and pancreas, special stress being laid upon the best methods of feeding in cases of jaundice and of gall-stones. Diet in diseases of the lungs is described by the editor, Dr.

G. A. Sutherland, who devotes a considerable proportion of his article to a discussion of the use of alcohol in the treatment of pneumonia. He assumes that the commonest cause of cardiac failure in pneumonia is poisoning and paralysis of the medullary centre, and that alcohol is, in the majority of cases, a stimulant of that centre. He admits that these are assumptions, and states that the clinical experiences of many observers support them. The article on diet in diseases and disorders of the heart by Dr. W. J. Hadley, and that on diet in diseases of the blood and blood-forming organs by Dr. John M. Cowan both afford practical and explicit directions in regard to these conditions.

Dr. Rose Bradford contributes an interesting chapter on diet in diseases of the kidneys. The influence of diet upon renal activity and upon the character of the urine is carefully outlined, and stress is laid upon the importance of regulating the intake of salt in renal disease, as well as that of the proteins. In the diet of acute nephritis the use of milk and of salt-free foods is recommended, while fruits and fruit juices are permitted. In chronic nephritis the disadvantages of an exclusive milk diet in some cases are set forth, and some useful practical directions are given as to the employment of eggs and even poultry, meat, and fish. Similarly in the albuminuria which persists after an attack of nephritis and in the so-called functional albuminurias limitation of the dietary is deprecated. Dr. Bradford's article is thoroughly interesting and useful. Dr. James Taylor treats of diet in diseases of the nervous system, Dr. T. Colcott Fox of diet in diseases of the skin, and Dr. Harry Campbell of diet in old age.

The important subjects of the feeding of infants and children in health and of diet in the diseases of children are dealt with by Dr. G. A. Sutherland in a manner wholly admirable. Careful and full directions are given in regard to breast-feeding and artificial methods of alimentation. We note here that Dr. Sutherland recommends the use of an ordinary feeding cup with a large rubber teat attached to the end of the spout in preference to any form of feeding bottle, but we fancy that nurses could find a practical objection to this advice. An instructive article on diet in the diseases of hot climates by Sir Patrick Manson and Dr. C. W. Daniels concludes the volume, to which a useful index is appended.

This System of Dietetics is one we can commend as thoroughly practical, and one which fulfils the objects expressed by the editor in his preface. It gives the results of actual experience rather than of purely theoretical speculations, and it affords directions in regard to actual diet scales in a manner easy to apply.

The Faith and Works of Christian Science. By the Author of "Confessio Medici." London: Macmillan and Co. 1909. Pp. 242. Price 3*s.* 6*d.* net.

THIS excellent little book is written without doubt by a medical man who is at the same time a loving student of literature and of philosophy. In the preface he states that the recent publication of the books of Mr. Lyman Powell and Mark Twain on "Christian Science," and the growth of the Boston Emmanuel Church movement as described in "Religion and Medicine" (recently reviewed in our columns[1]), give evidence that in America the Church of Christ Scientist is passing from consolidation to disintegration. In the ensuing chapters the author discusses the various aspects of "Christian Science"—its philosophy, its attitude towards Christ, the reality of diseases and of pain; the testimonies of healing and the opposing testimonies, and the attitude of common-sense and of authority towards "Christian Science." The chapter on philosophy is written by one who knows something of philosophy, and who is therefore competent to show the extravagant vagueness and looseness of thought which Mrs. Eddy's followers in their ignorance believe to be genuine philosophy. Every first-year student of metaphysics will recall the exaltation and joyous wonder which pervade his being when he first learns of the unreliability of the senses, how the whole world appears to dissolve into a mist of unreality, how ineffably superior he feels to the man in the street who has never heard of Subject and Object nor considered Mind and Matter from the metaphysical standpoint. Every student of philosophy can detect Mrs. Eddy's failure to grasp the subject, how she is entangled in obscure phraseology which is unintelligible nonsense to the genuine student, but to the average mind appears pregnant with infinite meaning. We can understand its attraction for those who are ignorant of philosophical terms. As the author states (p. 25): "The old antagonism between the materialist interpretation of consciousness and the transcendentalist has mostly been upheld by the combatants who thought hard and used words with some regard for their meanings. Christian Science has got hold of the words; but not of the meanings."

In Chapter VI. the testimonies of healing which are quoted by the author have the customary vagueness, the absence of definite and authenticated medical diagnosis, which we are accustomed to find on endeavouring to trace the cure of a so-called organic disease by psychical means. Every practitioner knows the weird descriptions given even by patients of the educated classes of the diagnosis and advice given them by their previous advisers. These are not necessarily always false or foolish, for the medical man in seeking to explain to the patient has to employ non-medical terms, which may convey an erroneous idea of his meaning. The chapter on Opposing Testimonies is the most important in the book, for in it the author analyses from the medical standpoint several of the great cures claimed by "Christian" science, and shows how worthless they are from the point of view of truthful science, and also gives a list of 68 black cases, cases of failure, of injury, and of death due to "Christian Science," all of which were collected from various medical men within a few short weeks. In the chapter on Common-sense there is a strong plea for the children which should stir the heart of every parent. "Common-sense cries, For God's sake leave the children alone. ...... For their bodily safety children must believe in the reality of injuries, disease, and pain. ...... Is it fair to tell a child that pain is not real? ...... Christian Science says that she teaches children to be singularly fearless. The reader can decide the worth of this defence."

The writer, moreover, shows his breadth of mind by admitting frankly the field of usefulness occupied by "Christian Science" in helping to improve the lives of "a multitude of men and women. Outside the intense cases of nervous mimicry and neurasthenia ...... are cases innumerable, circle beyond circle, of pleasanter people, many of them blessed with lives of singular refinement, who are the better for Christian Science." They become improved in mind and body because they have, in this busy hurried age, learned how to rest, to be at peace. Mrs. Eddy has popularised by her wide organisation of teachers the great truth taught so long ago, the necessity of rest in the Infinite. That one truth will survive when her doctrines of self-assertion and negation of matter will have passed away, as all false doctrines do. "Christian Science" has had a wider popularity than the other rival mind-healing sects in America, simply because of Mrs. Eddy's power of organisation. Day after day the pupil has to read the new "bible" without question or discussion, has to listen to public readings of the same bible, also without discussion or comment. Gradually the pupil is, as it were, hypnotised; he cannot escape from "Christian Science" unless serious disease attacks him. But there are millions of equally happy, healthy, godly people who have attained to their happiness, health, and virtue by more charitable, humble, and truly spiritual means, by daily study of the true Bible, and true philosophy. Medical men of to-day have recognised the wisdom of dealing with certain harassed, restless patients by insisting on a daily time for quiet meditation and reading of selected books.

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[1] THE LANCET, Feb. 13th, 1909, p. 469.

Every medical man should read this little book. In these pages of kindly wisdom and shrewd logic they will find answers to the questions so constantly put to them by patients who are inclined to substitute for faith in scientific therapeutics faith in every ignorant and self-seeking "mind-curer."

Surgical Diseases of the Abdomen: with Special Reference to Diagnosis. By RICHARD DOUGLAS, M.D., formerly Pro- [illegible] Surgery, Medical [illegible] Nashville. Second [illegible] by RICHARD A. BARR, B.A., M.D., Professor of Abdominal Surgery, Medical Department, Vanderbilt University. Illustrated by 20 full-page plates. London: Rebman, Limited. 1909. Pp. 897. Price 26*s.* net.

THIS is a practical text-book on an important subject. The thoroughness with which Dr. Douglas carried out the writing of the first edition necessitates few changes in the original text in the second. The text has been preserved practically intact and apparently no additions have been made to the bibliographical references at the end of the articles on the various subjects since 1903. The sections dealing with peritonitis, and especially tuberculous peritonitis, are particularly interesting and are well written; we should have appreciated, however, a fuller description of the advantages of vaccine-therapy in the case of tuberculous peritonitis, important work at which subject we know to have been done in America. Intestinal obstruction is also well dealt with, and the section relating to surgical interference in the case of perforating intestinal typhoid ulcer provides considerable food for thought, notwithstanding no reference to literature is put forward in the table of bibliography at the end of the section of a later date than 1901. In the sections dealing with penetrating and gunshot wounds of the abdomen and the different abdominal viscera respectively, we regret that no reference has been made to the reports, official and otherwise, relating to the South African war (1899–1902) and the Russo-Japanese war, the literature of which somewhat revolutionises the aspects of modern gunshot surgery caused by small-bore missiles when contrasted with the wounds inflicted by firearms of the nature of those used in previous wars. While several sections are devoted to pelvic organs and pelvic conditions, such as the bladder, uterus, ovaries, ectopic gestation, &c., no reference is made to any of the surgical diseases of the rectum, which is the more odd that in this section of surgery America is by no means behind the times.

The work is well illustrated and the type is good. The index is very satisfactory—always a matter of considerable importance in a large book of reference. We regret that more reference has not been made to recent work in abdominal surgery, but to those who have not read the previous edition we consider the work likely to be very useful, especially to medical practitioners who wish to have a full account of the diagnostic conditions that may require expert surgical assistance.

LIBRARY TABLE.

"The Modern Mother": a Guide to Girlhood, Motherhood, and Infancy. By H. LAING GORDON. London: T. Werner Laurie. 1909. Pp. 270. Price 6*s.* net.—The title of this volume is a little unfortunate. To the reviewer who has had to read many works on this subject it foreshadows either the unwholesome sentimentality or the mass of fads which so often ruins this class of handbook. Dr. Laing Gordon, however, takes a wholesome, simple view of the aim of womanhood, which is "to see a girl become a successful wife and mother …… it is impossible to set up a higher ideal, or a more natural or pleasanter object in life"; and the lines upon which his advice is directed are indicated broadly by his warning against the difficulties encountered in the modern maze of "scientific gymnastics, physical culture and anti-uric dietary, massage vibration," on one side, and "the simple life" on the other. On the subject of exercise lawn tennis is selected as the summer game *par excellence* for girls, and, in our opinion, open winter courts might be established in many good-class schools to the exclusion of hockey. Young girls, under 12 years old, should, in Dr. Laing Gordon's opinion, not be allowed to bicycle or only to ride under strict supervision. All Dr. Gordon's remarks on dress will not meet with complete approval; we fail to see the reason for his preference for knickerbockers over woollen combinations; the latter are much more readily washed and do not produce the same amount of ecthyma and allied forms of pyodermia which are often seen in quite "smart" schools. In considering the burning question of stays the author defends them as a working compromise; he maintains that they have their uses as a support and help to preserve graceful contours; he is quite alive, however, to their evils and abuses. His treatment of the point illustrates the general breadth and common-sense which distinguish the book. The chapters on marriage and motherhood are discreetly and well handled, and so are those on infantile hygiene. In the light of Mr. John Burns's recent diatribes against infant comforters, it is refreshing to find the criticism "that the sight of a comforter in a baby's mouth is invariably a sign of weakness of character in his protector." The "medical" chapters dealing with the diseases of childhood are admirably direct and simple and are not calculated to make mothers believe they are qualified specialists in children's diseases after their perusal. We should have liked to see a little more stress laid on the care of the eyes in childhood and a little closer detail as to the recognition of errors of refraction by parents. The worst chapter in the book is that on the mental and moral training in early childhood. In much of its composition there is undoubtedly what the immortal Charles Lomax would call "a certain amount of tosh."

University of Pennsylvania: Contributions from the William Pepper Laboratory of Clinical Medicine. No. 6. Philadelphia. 1907 and 1908.—This volume contains a number of reprints of important papers emanating from the workers in the William Pepper Laboratory. They are too numerous to mention individually although they are all of interest. Dr. David L. Edsall and Dr. Ralph Pemberton describe the use of x rays in three cases of unresolved pneumonia. They find rapid clearing up of the signs of consolidation. They are careful to warn us against using x rays where there is marked fever or other evidence of toxæmia, and they admit that the number of cases is too small to admit of any positive conclusions. The same authors contribute a paper on the General Toxic Reaction following Exposure to X Rays. Dr. William Pepper and Dr. Verner Nisbet give details of a case of Fatal Hæmolysis following Direct Transfusion of Blood by Arterio-venous Anastomosis. Dr. William R. Nicholson and Dr. Joseph S. Evans contribute an interesting account of the Bacteriology of the Puerperal Uterus. They find that the uterine lochia are sterile in normal cases throughout the puerperium and that streptococci are never present within the cavum uteri without causing symptoms

Dr. Samuel M. Hamill, Dr. H. C. Carpenter, and Dr. Thomas A. Cope discuss the von Pirquet, Calmette, and Moro tuberculin tests in an interesting paper reprinted from the *Archives of Internal Medicine.* Dr. R. S. Lavenson gives an account of the post-mortem appearances in a case of congenital obliteration of the bile-ducts with cirrhosis of the liver. In opposition to the views of Dr. H. D. Rolleston, he regards the obliteration of the bile-ducts as the primary condition and the cirrhosis as a result of the consequent biliary stasis. He gives a useful bibliography. The same author contributes an exhaustive study of a case of aplastic anæmia, which he regards as a variety of progressive pernicious anæmia. Dr. Benjamin A. Thomas discusses the variability and unreliability in the determination of the opsonic index. He concludes that the percentage index of phagocyting leucocytes of Simon is of more value from the practical standpoint than Wright's phagocytic index. The character of the papers in this volume is of a high order, and it forms a valuable record of good original work.

Livingstone College Year-book, 1909.—The Year-book of Livingstone College for 1909 contains Rules of Health for Missionaries in the Tropics, drawn up at the instance of the Association of Medical Officers of Missionary Societies, and these contain, in a very small compass, information which is needed by all Europeans going to the tropics as to the preservation of their own health. These rules are absolutely up to date, based upon the most recent researches in the subject of tropical hygiene, and should prove of value. There is also a careful *résumé* of a year's progress in tropical medicine, including interesting particulars concerning the Sleeping Sickness Bureau, and the latest suggestions as to treatment. There are also notes on outfits, based upon the exhibit of outfits now being held at the Royal Agricultural Hall, entitled "Africa and the East," news from Livingstone College students, showing the way in which medical and surgical knowledge gained at the College has been put to practical effect, and some interesting cases.

JOURNALS AND MAGAZINES.

Proceedings of the Royal Society of Medicine. Vol. II., No. 7 (May, 1909). London: Longmans, Green, and Co. Price 7*s.* 6*d.*—The Section for the Study of Disease in Children, which opens this number, contains a valuable paper by Mr. N. Bishop Harman on the Effects of School Life upon the Vision of the Child, founded upon an extensive experience of the ocular defects of elementary school children in London. Mr. Harman's conclusions are more hopeful than have been recent pronouncements on the same subject. He considers that in general the eyes of London school children are in a very fair condition, especially in comparison with the reported state of the children's eyes in German schools. By far the greater proportion of visual defects are due to hypermetropia and its associated astigmatism, which the author shows reason for believing to be "the normal conditions of human eyes." He finds that myopia and the associated astigmatisms occur in less than 3 per cent. of school children. In refutation of the "First Study of the Inheritance of Vision and the Relative Influence of Heredity and Environment on Sight," recently advanced by Miss Amy Barrington and Professor Karl Pearson, Mr. Harman considers the incidence of myopic defects to bear a direct relation to faulty social conditions, such as overcrowding, lack of fresh air and sunlight, as well as to excessively "fine" school-work. He calls these defects the "manufactured" cases of bad vision. To the Neurological Section the same author contributes an account of the "Diaphragm Test" for Binocular Vision, which includes a simple but subtle method of trapping "monocular amaurotic" malingerers. Interesting case reports are contributed to this section by Dr. Wilfred Harris, Dr. G. de B. Turtle, Dr. T. Grainger Stewart, Dr. Gordon M. Holmes, and Dr. Leonard G. Guthrie. The Clinical Section is occupied with cases, including the interesting series of Mongolian idiocy which has been already described in THE LANCET. In the Dermatological Section Dr. H. G. Adamson publishes a photograph of a Mouse with Favus, and cases are reported by Dr. E. G. Graham Little, Dr. T. D. Savill, Dr. J. H. Sequeira, and Dr. A. Whitfield. The chief contribution to the Electro-Therapeutical Section is a description, which we hope to publish, of a Vulvo-vaginal Electrode for Ionic Medication, by Dr. S. Sloan. Mr. T. J. Bokenham and Dr. N. S. Finzi also write on Ionic Therapy, and Dr. Horace Manders describes a therapeutic apparatus for producing continuous oscillations of electricity. The Epidemiological Section is occupied with an important paper by Dr. L. W. Darra Mair, entitled "The Etiology of Enteric Fever in Belfast in Relation to Water-supply, Sanitary Circumstances, and Shell-fish," with a report of the discussion which it evoked. The paper deals with the facts and data contributed by Dr. Mair to the report of the Belfast Health Commission appointed by the Local Government Board for Ireland in 1907. His investigation dealt with the etiology of enteric fever in Belfast, and a very strong case was made out against sewage-polluted shell-fish as a chief agent in the local epidemiology of the disease. The report was discussed fully in THE LANCET last year at the time of its publication. The Laryngological Section is occupied exclusively with cases, and in the Medical Section Dr. O. K. Williamson records some clinical observations on the Influence of the Vessel Wall on (So-called) Arterial Blood-pressure Readings, including a detailed study of a series of cases which lead the observer to the conclusion that the resistance of the vessel wall may influence hæmomanometric readings to a marked degree. Other noteworthy papers in the number are by Dr. Harold Simms, who describes in the Odontological Section a bacteriological research on the Action of Formalin and Other Root Dressings in dental practice, and by Dr. J. Gordon Sharp, whose Experiments and Experiences, Pharmacological and Clinical, with Digitalis, Squill, and Strophanthus, occupy the pages devoted to the Therapeutical and Pharmacological Section.

THE LONDON COUNTY COUNCIL AND SCHOOL MEDICAL OFFICERS.—To fill the vacancy caused by the resignation of Mr. K. M. Hunter (quarter-time assistant medical officer in the Education Department), the London County Council has promoted Dr. F. C. Shrubsall assistant school medical officer at a salary of £150 a year, inclusive of travelling expenses. In consequence of other resignations a rearrangement of the staff of school medical officers has been effected, and in order to carry out the scheme of medical inspection approved by the Board of Education an advertisement has been issued for 26 assistant school medical officers.

SURREY COUNTY HOSPITAL: A NEW CONVALESCENT HOME.—Apropos of the announcement in our columns on Oct. 24th last regarding the gift of Mr. G. P. Shepherd of £10,000 for the purpose of building and endowing a convalescent home at Worthing for patients from the Surrey County Hospital, Guildford, the home was opened on the afternoon of June 18th by the Viscountess Midleton. Above the main entrance of the institution is an inscription stone bearing the following words: "The George Prentiss and Emilie Shepherd Convalescent Home, in connexion with the Royal Surrey County Hospital, Guildford." For reasons of health, Mr. Shepherd, an old Guildford resident, was unable to be present at the proceedings. The home has been constructed in accordance with all the latest hygienic and sanitary requirements and is situated on the eastern sea front of the town. It may be here mentioned that there is another seaside institution in connexion with the Surrey Hospital on the Sussex coast—viz., at Bognor. The Worthing home will be reserved for those recovering from operations.

THE LANCET.

LONDON: SATURDAY, JUNE 26, 1909.

Radio-activity and Cancer.

ANY facts which bear in any way on the question of the mode of origin of malignant disease cannot fail to be of great interest, and they may easily turn out to be of the utmost importance. In the Croonian lectures which Dr. W. S. LAZARUS-BARLOW has delivered before the Royal College of Physicians of London this month he has described a series of experiments which he has been making during the past two or three years on the radio-activity of various substances, and in this way he has thrown a light on the yet unsolved problem of the etiology of cancer. Dr. LAZARUS-BARLOW started with the sinister and deplorable fact that the hands of many of the workers in x rays, true martyrs to scientific zeal, have developed epitheliomatous growths, and it is clear that the x rays have in some way or another led to this appearance of malignant disease. The influence may have been direct, the rays directly causing the development of cancer, or it may have been indirect, the rays merely preparing the tissues for the action of some other truly causative agent. Supposing that the action is indeed direct, the question naturally arises whether the substances which are usually supposed to give rise to carcinoma are also radio-active. These substances are such as clay pipes and soot; and cholesterin also is credited with the power of starting a malignant growth. These and many kindred matters Dr. LAZARUS-BARLOW and his assistants have investigated. He tested the materials in part by their power of affecting photographic plates in the dark, and this property he has called skotographic, a name which is certainly very convenient, though purists might consider it not happily chosen, for photography meaning "writing or drawing by light," skotography should mean "writing or drawing by darkness," an inconvenient term for that form of actinography in which the rays are invisible.

Dr. LAZARUS-BARLOW shows that substances which are associated with malignant disease, such as cholesterin, have a high degree of skotographic power, while others, such as a clay pipe and paraffin, are devoid of it. He has also proved that certain tissues of the human body, such as liver and kidney, show skotographic action, while others, as the spleen and lung, do not; that this skotographic power is greater in the tissues of women, and that it increases on the whole with age is also demonstrated, and our reproductions of his skotographs support his contentions. Carcinomatous material has skotographic power, especially when taken from the bodies of women. The nature of this power possessed by the substances examined somewhat resembles that shown a few years ago to belong to wood and believed to be due to a chemical action, but the skotographic power is also allied to that possessed by recognised radio-active substances. Substances possessing radio-activity have also the power of discharging electroscopes, and Dr. LAZARUS-BARLOW's work indicates that by the use of recognised radio-active substances retardation of the rate of discharge of electroscopes occurs, though physicists may have some difficulty in accepting certain of these results. All forms of radio-activity have also been shown by these experiments to have both accelerating and retarding influences upon the development of the ova of ascaris megalocephala, and thus a new idea is started as to the power of certain tissues to influence the rate of development of animal cells. It follows that in radio-activity we have a possible solution of the phenomena of malignant disease. Radio-activity would suffice to explain the irregular mitoses of malignant new growths; it would explain the lessened formation of pepsin and trypsin in carcinoma, for it has been shown that the activity of these enzymes is much diminished by radio-active influence. It would explain the curability of some superficial cancers, for in many microbic diseases it has recently been proved that the agent producing a disease may be pre-potent in elaborating the remedy. This explanation of the origin of carcinoma would not be opposed to the existence of cancer houses, for some soils or building materials might contain sufficient radio-activity to give rise to carcinoma in successive inhabitants. The idea is not opposed even to a microbic view of the origin of cancer, for the only question would be whether the suggested agent is radio-active or not. It is not incompatible with COHNHEIM's theory of embryonic rests or VIRCHOW's theory of mechanical irritation, for the radio-activity would be the underlying force required by each. Attempts to cause cancer by radium and other radio-active substances have hitherto been unsuccessful, though it has been clearly shown that an irregular overgrowth of epithelial cells may be thus produced.

We have found these lectures replete with interest. They record the results of innumerable observations and of an immensity of work. They shed fresh light on an intensely difficult problem, and they supply us with new facts in physics and biology that may one day bear much fruit. Whether we have here the true solution of the mystery of cancer is, however, another question. These observations, numerous as they have been, need repetition and extension, but they will always remain a proof of the excellent work done in the laboratory of the cancer department of the Middlesex Hospital. We appreciate highly the energy, accuracy, and skill shown by these investigations, we value the many new facts brought forward, and we anticipate great results from these investigations into the radio-activity of tissues, whatever may be the outcome of the researches when directed particularly towards affording a solution of the origin of cancer. To the lectures themselves we must refer our readers for a full account of the experiments performed and of the arguments advanced; for it is impossible to summarise them satisfactorily, while Dr. LAZARUS-BARLOW's own record is an extremely lucid piece of writing. Suffice it here to say that every step in the investigation appears to have been taken with the greatest care, and the only doubt is whether the facts deduced can bear the burden laid upon them. The experiments are apparently to be continued, and we must postpone till the investigations are complete any definite decision as to the adequacy of the explanations which are offered for the various phenomena observed; for the work accomplished and the manner in which it has been done we have nothing but praise.

Oral Sepsis.

THE pathological importance of the mouth has been appreciated at its proper value only of late years, when several diseases have been recognised as arising from micro-organisms breeding therein, and it is not improbable that the future will add greatly to the list of the morbid processes which may be attributable to oral sepsis. We are led to this reflection by the perusal of two papers appearing in this issue of THE LANCET by Dr. G. I. STEWART and Mr. L. A. PARRY respectively. That the conditions obtaining in the mouth are pre-eminently suitable for the nurture and growth of micro-organisms is now so universally allowed that we need do no more than enumerate the main points in the briefest manner. In the mouth we have a cavity to which entrance of micro-organisms from without is unimpeded. Every mouthful of food or drink or air that is taken may add greatly to the number of any microbes present, when the conditions of the cavity in conformation, temperature, and moisture favour rapid multiplication. So anfractuous a receptacle provides numberless hiding places where colonies of bacteria can lurk unmolested and increase rapidly. The spaces between the teeth offer suitable breeding-places, while cavities of their substance or pockets due to retraction of the gums add to the amenities offered to micro-organisms. The irregular surface of the tonsils plays its part, and all the conditions alike bring it about that numberless stray particles of food should be left behind in the oral cavity after swallowing, providing an enormous supply of decomposable material. The abundant supply of moisture, so necessary for the growth of most bacteria, has a weak alkaline reaction which also favours decomposition; and the temperature, which in the parts more exposed to air currents is several degrees below that of the body, in the more recondite positions reaches the body temperature, providing changes of climate suited to the constitution of a very large number of visitors. We need not therefore feel any surprise when we are told of the extensive flora present in the mouth: it is extensive even in the civilised man who devotes attention to the cleansing and care of his teeth, but among what is still the vast majority of people who never clean the teeth and whose mouths contain carious stumps this flora is oppressively luxuriant. Here it is, indeed, surprising, not that many septic processes, near and distant, may follow oral sepsis in such cases, but that life in so many instances continues almost undisturbed by processes going on in the gateway of respiration and digestion.

The question naturally arises, Has nature made no provision to cope with this enormous bacterial invasion? The answer is that some prophylactic measures have been taken; the adenoid tissue which forms abundant masses in the tonsils and lines also the upper part of the pharynx is apparently intended to intercept and destroy both bacteria and their products coming from the mouth; and the frequency with which this lymphoid tissue is inflamed testifies to the need for its presence. The mechanical cleansing of the mouth, that resulting from a natural diet, is also not to be despised. When hard food is taken into the mouth and chewed it removes mechanically many of the micro-organisms of the mouth, while soft, pulpy foods, so dear to the palate of modern man, favour the accumulation of decomposable material in the mouth. In the savage state, as in the lower animals, carious teeth are rare; opinions differ as to the reason why civilisation is followed by carious teeth, but the fact remains that caries appears to be much commoner in civilised communities than among the less advanced races. There are three methods by which this abundant microbic invasion may cause disease. In the first place, by direct extension the germs invade the gums, the tongue, and the cheeks, and extend into the neighbouring cavities of the pharynx and nose, setting up inflammation in the mucous membranes and in the deeper structures, and also involving the lymphatics and the glands. Not less important is the infection liable to be produced by aspiration of organisms into the respiratory tract, for thus are set up many forms of laryngitis and tracheitis, as shown in the paper by Dr. STEWART; and in the same way, though more rarely, is caused the aspiration pneumonia, so striking and fatal a complication of operations on the mouth. There is yet a third way in which an oral sepsis may invade healthy tissues, and that is by absorption, either directly from the mouth or after swallowing; and many general conditions, formerly of very obscure ætiology, seem now to be explicable as arising from the absorption of toxic products formed in the mouth. Great and important though these septic processes in the mouth may be in ordinary circumstances, they are of especial importance in connexion with operations on the mouth and its adjoining cavities. Time was when surgeons proceeded to remove a tongue or excise a portion of a jaw without having paid any regard to the condition of the mouth. It is surprising that in many cases no obviously harmful results followed these operations, even though the condition of the mouth may have been septic in the extreme, but in only too many instances a septic pneumonia or a general infection has led to a fatal termination.

The case under the care of Mr. PARRY in which acute mastoiditis and later cerebellar abscess followed and evidently resulted from an operation for the removal of tonsils and adenoids is instructive. The operation of removal of adenoids is now looked upon as a very harmless operation, but septic complications are probably less rare than is usually imagined. With sepsis of the mouth present even slight operations on the mouth or in its neighbourhood may be followed by harmful results. The greatest attention should therefore be paid to the condition of the mouth in all such operations, and even in operations on parts farther off. It is now being recognised that oral sepsis militates greatly against operations on the stomach and intestines, and care as to the condition of the mouth is likely to be followed by better results. In all obscure morbid conditions arising in any part of the body it is well to take into consideration the condition of the teeth, for in oral sepsis we may find the explanation of many morbid processes, and in its removal we may find the simplest and most satisfactory method of treatment. On the condition of the mouth much of the health of the nation depends, and it is a sign of awakening wisdom among us that the care of the teeth of our children is now to share public attention with the curriculum for their instruction.

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The Medical Inspection of School Children: By Whom Should it be Carried Out?

WE have referred in many recent issues of THE LANCET to certain circumstances in connexion with the medical inspection of school children, dwelling firstly on the situation at present existing between the metropolitan hospitals and the London County Council, and secondly on the possibility of the institution of school clinics being recognised as the preferable method among several methods for the carrying out of any treatment following upon inspection. We wish this week to look at another phase of a complicated and difficult question, rural districts being now under consideration rather than the metropolis or great urban communities. The duty of inspection has been delegated to local administrative bodies by the State, and medical men ought to be ready to consider the several proposals which have been, and are being, made for carrying out the work both of inspection and treatment, remembering always that the prime interest of the State is the health of the community rather than the internal policy of any profession. The growing disposition on the part of the State to monopolise for small remuneration the services of medical men for this purpose is raising difficulties which can by no means be ignored, and these difficulties appear to be increasing rather than diminishing day by day. There is, for example, a distinct tendency on the part of the education authorities to procure the inspection in question by the instrumentality of young medical men who are required to devote their whole time to the duties of their office, and there are, of course, many reasons which can be adduced in support of this practice. Amongst other things it makes for unity of method in the several schools of the district, and prevents, or should prevent, friction which might in some cases not inconceivably arise amongst the local practitioners were the medical inspection carried out by one of their number. There are, however, objections which may be urged against these whole-time officers, and one of them is the fact that they are not and cannot get into touch with the children and the parents in a manner which might be the case were the work divided amongst the local practitioners, while the consideration that their term of office is likely to be transient lends additional force to this contention. Yet as things are at present arranged by the Local Government Board and the Board of Education there are reasons why the actual inspectorial work should in some cases, as, for instance, in a county area, be carried out by the local medical officer of health acting under the supervision of the county medical officer of health, and this is the arrangement which has actually been introduced on the recommendation of Dr. F. E. FREMANTLE, the county medical officer of health, in the county of Hertfordshire. Perhaps the strongest argument in favour of this arrangement is the desire on the part of the two Government departments concerned in the health of the children that there shall be cordial coöperation between the school medical officer and the local medical officer of health, both of whom are given jurisdiction in the schools in the matter of control of infectious disease. It is the wish of both Government departments that medical inspection "should be carried out in intimate conjunction with the public health authorities and under the direct supervision of the medical officer of health," and that "as far as is practicable the school medical service should be uniform with the public health service." We quote the words of a recent circular of the Board of Education.

Such cooperation ought not to be difficult of achievement if both the school medical officer and the medical officer of health possess elementary administrative tact, although each of these officers is given specific administrative functions in connexion with both the schools and the scholars. The medical officer of health has already to report upon the sanitary conditions of the schools as well as upon the action taken in relation to the health of the scholars and for preventing the spread of infectious disease, while the Board of Education, in its circular No. 576, refers to the objections to dual jurisdiction in the sanitary control of school premises and the notification and prevention of the spread of infectious diseases, in which directions the duties of the medical officer of health and of the school medical officer necessarily and obviously overlap. The Board of Education goes on to point out that "if these duties are to be effectively carried out the interest and activities of the school medical officer must extend over the whole external environment of the child," adding that "efficiency and economy require therefore an organic relationship between the daily work of the school authority and of the authority responsible for the administration of the wider branches of public *health*" There is no doubt as to the necessity of this organic relationship, and in certain instances it may perhaps be best provided for by the appointment, as in Hertfordshire, of the district medical officers of health acting under the superintendence of the county medical officer. But it seems to us that *there* are *many* circumstances in which this arrangement would not be so desirable as one by which the actual inspection was carried out either by a whole-time officer or officers, or by local medical practitioners, whether medical officers of health or not. When the local medical officer of health is also in private practice there might be professional objections to his becoming the school medical officer, objections which would tend to be emphasised were the treatment of diseased conditions by the education authority to become at all general. We are not, now, discussing the matter of treatment; but this is the all important side, and the machinery of inspection will be valueless unless it is put into action with a view towards treatment.

Notwithstanding the opinion expressed by the Board of Education as to the undesirability of dual control, such dual control must obtain in certain particulars, and therefore the officers concerned in such control, being in many instances officers of the same authority, must work harmoniously together much in the same fashion as the medical officer of health, the surveyor, and sanitary inspector have had to do for very many years past. Each of these officers has jurisdiction over certain matters in common, and the arrangement is one which is not without some advantages. One important consideration in favour of giving the actual medical inspection of school children to local medical officers of health in certain instances is that by so doing a part-time medical officer of health may be converted into a whole-time officer, an arrangement which to a great extent avoids the professional objections with regard to medical inspection which have already been referred to. But in so far as the work of inspection is concerned, we trust that the claims of those practitioners who are not also medical officers of health will not be overlooked, as from their local knowledge of the children and of their parents and their homes they are the most likely persons to be of service to the State in promoting the health of the rising generation.

Annotations.

"Ne quid nimis."

THE PRICE OF RADIUM.

IT is to be hoped that some other source of rays having the same curative properties as the radium rays will soon be discovered, having regard to the extreme rareness and costliness of this extraordinary element. We do not despair that some such discovery will be made, especially in view of the fact that recent investigations have led to a differentiation of ray from ray, some proving to be irritant in their nature, while others are healing. The x rays had not long been tried in therapeutics before it was found that a skin irritation beyond the power of remedies was set up; later a means was found of filtering the rays from their irritating component, so that all danger in their application can be avoided. It is therefore conceivable that as the work of analysis or differentiation of rays progresses the exact radiation that is required in the treatment of disease will be found. Next, this method of analysis applied to radiations given off by various electric discharges may lead to the separation and concentration of an identical radiation, a discovery which will make us independent of a radium supply and which will open up a vast new domain in the treatment of disease, or so it appears from the promises of recent pathology. This week it was announced that a contract for the supply of about a quarter of an ounce of radium bromide had been placed with a mining company owning a pitchblende mine in Cornwall. The price is said to have been fixed at about £114,000 per ounce. The radium is to be presented by Lord Iveagh and Sir Ernest Cassel to the Radium Institute. It is stated that the radium will be separated from its ore by a firm in Germany under the superintendence of its chemist. This last announcement will come as a disappointment to most English people, and doubtless it will lead some to believe that the work of separating radium from pitchblende is not amongst the attainable achievements of the English chemist. Not long ago an English chemist visited a pitchblende mine in Cornwall, and was informed that the ore after powdering was sent direct to Germany because "the English chemists did not know how to treat it here." We are certain that is not the case. On being asked whether radium was made from it the miners did not know, but stated that uranium had been used in making ornamental glass for a good many years. It is probable, therefore, that when radium was discovered in Cornish uranium ore (pitchblende) the workers who employed it for tinting glass turned their attention to the rare element, and finding it present doubtless entered into further contracts which would make the task of extracting radium a profitable undertaking. If this is what has happened the incident seems to us to give further proof of the opportuneness of the Prince of Wales's warning to England to "wake up," and it is a queer coincidence that the illustrative circumstance should have occurred in his own duchy.

THE MEMORANDUM OF THE DIRECTOR-GENERAL OF THE ARMY MEDICAL SERVICE ON CHRONIC TYPHOID CARRIERS.

WE have received a copy of an important Memorandum prepared by the Director-General of the Army Medical Service, and presented to both Houses of Parliament, on the difficult subject of the Transmission of Enteric Fever by the "Chronic Carrier." We commented upon one side of this question from the point of view of civilian practice in THE LANCET of June 19th, p. 1770, and pointed out the difficulties in keeping watch after convalescence upon the patients who have suffered from the disease with a view to the discovery and treatment of those who are carriers of the bacilli. We further published an interesting case recorded by Dr. P. J. Cammidge, in which there was evidence of discharge of typhoid bacilli by the fæces 10 years after recovery from the disease. The Director-General, in his memorandum, gives an interesting *résumé* of the history of the discovery of the existence of "typhoid carriers," and of the means taken by the Government of India to discover and isolate them from the troops. On the recommendation of a committee specially appointed to consider the question Naini Tal depôt was reserved for patients convalescent from enteric fever, and bacteriological investigations were carried out, with the result that during 1908 several chronic carriers were detected and subsequently invalided to England. Since all attempts to render such patients free from the bacilli by medicinal treatment, such as by the administration of salol and urotropine, have proved unsuccessful, the Army Medical Advisory Board deputed a subcommittee to investigate other methods of treatment. They found that the cases fell into four groups—viz., pure intestinal cases, urinary cases, intestinal cases with symptoms of inflammation of the gall-bladder, and mixed intestinal and urinary cases. In the pure intestinal cases it was thought that lactic acid bacilli might possibly serve to disinfect the gastro-intestinal tract, and this form of treatment was employed in two cases specially selected for that purpose. In one of these the treatment has apparently been successful; in the other, although the Bulgarian bacilli were well established in the alimentary canal, typhoid bacilli continued to be passed, but in diminished numbers. It is of interest to note in this connexion that Professor Drigalski, in conjunction with Professor Fraenkel, has obtained apparently successful results from this treatment in two cases. In regard to the other classes of typhoid carriers it was obviously improbable that the lactic acid bacilli could effect any great improvement, and it was decided to attempt to treat these cases by means of vaccines with the view of increasing the protective reactions of the body towards the bacillus. It was found that on employing in these cases the stock vaccine used in the prophylactic inoculation against the disease the protective substances were increased, but the excretion of bacilli was not arrested. The elaboration of protective substances appears to be related to the virulence of the strain of typhoid bacilli which has infected the body, and a vaccine prepared from a comparatively non-virulent strain does not appear to be very effective. In future it is intended to prepare a vaccine from each patient's own organism. Sir Alfred Keogh's memorandum is an important contribution to the study of the problem of carrier cases, and although the results so far obtained are inconclusive they are sufficiently encouraging to warrant further work upon the same lines.

POST-MORTEM CÆSAREAN SECTION.

THIS operation is undoubtedly one of great antiquity, although it is difficult to state at what period of time in the world's history it was first performed. The *lex regia* of Numa Pompilius, by which it was enacted that in the case of a pregnant woman near full term dying undelivered the body should be opened immediately after death and the child extracted, shows that it was known to, and practised by, the Romans. That post-mortem delivery was recognised in ancient mythology is suggested by the legends surrounding the birth of Bacchus and of Æsculapius, and renders it probable that its first origins are to be sought at a very early date. Rosenbaum is, indeed, of opinion that the operation was practised probably by the professional embalmers among the ancient Egyptians. Subsequent to the date of the *lex regia*, numerous ordinances were passed for the same purpose, but it would seem that the procedure fell into disrepute possibly on account of the bad results obtained as regards the life of the children. With the spread of Christianity and of the rite of baptism, which gave to the life of the unborn child an increased worth, the operation again came into favour, and in the first half of the eighteenth century Pope Benedict issued a precept in which the indications for, and the precautions to be observed in, its performance were duly set forth. As Hubert remarks, the Roman Catholic Church reproduced the injunction of the *lex regia* in the following decree of its ritual: "Si mater praegnans mortua sit, fructus quam primum caute extrahatur." At the present day post-mortem Cæserean section holds a definite place in the medical art and should undoubtedly be practised in all cases in which the chance of delivering the child alive is present. In some countries indeed, for example, in the German States of Bavaria, Würtemberg, and Saxony, the *lex regia* is still in force. In France and England the matter is left to the discretion of the attendant physician, and as a natural result in these countries the operation is undertaken very infrequently. The reluctance of many obstetricians to perform it is explained when we study the results shown by the older statistics; thus of 299 operations of this nature performed up to the year 1888, in only 19 cases were the children extracted alive and only 5 of these survived. Modern statistics are, however, much more encouraging—for example, of 14 cases collected by Bauer, 10 children were born alive, and of 28 cases collected by Dicke during the years 1875 to 1903, 28 children were delivered alive, of whom 19 survived. It must be remembered, however, that these figures are probably unduly favourable, since only successful cases are likely to be published. The chance of the child surviving will necessarily depend a good deal on the cause of the mother's death. The researches of Breslau and Runge have demonstrated that the fœtus is most likely to survive for some length of time after the death of the mother when this has taken place suddenly. In cases of high fever or of acute septic poisoning the fœtus not infrequently dies before the mother. The accounts of cases in which children are said to have been extracted alive from the uterus even after the burial of the mother, belong to the realms of fiction. Of this description is the story of François de Civile, who on great occasions signed himself "trois fois enterré et trois fois par le grâce de Dieu resuscité," and who is said to have been delivered by a Cæsarean section performed on the exhumed body of his mother. The most recent observations point to the likelihood of obtaining a living child after a longer interval of time than 20 to 25 minutes after the death of the mother being extremely small. In two recent cases recorded by trustworthy authorities, living children were extracted 19 and 17 minutes after the sudden death of the mothers. The suggestion that in order to minimise the risk to the child the operation should be performed on dying patients before a fatal issue actually results has found favour recently amongst various obstetric writers. This suggestion is one, however, of considerable antiquity, and was put forward by some of the older Italian writers, who discussed the advisability of the operation in the moribund state before death actually occurred. A number of modern cases of this kind have been recorded with a good result to the child. The difficulties in coming to a decision in such a condition will naturally be even greater than in the case of a patient who is certainly dead, and this procedure is consequently hardly ever likely to be practised except in a hospital. On the other hand, the performance of a post-mortem Cæsarean section may fall to the lot of any practitioner, and it is essential that he should have clearly in his mind the conditions which would render such an undertaking justifiable. These may be postulated shortly as follows: that the child should be viable and alive, that not more than 20 minutes should have elapsed since the death of the mother, and that the possibility of a rapid delivery by the natural passages should be out of the question. An interesting case in this connexion recently has been the subject of a coroner's inquest in the town of St. Laurent in Canada. A woman suffering from an abscess in the brain died during labour, and at the order of the priest in attendance a midwife performed post-mortem Cæsarean section, it is said with a razor, and extracted a living child who survives. The matter naturally occasioned a good deal of comment in a small town, and in view of the rumour which prevailed that the woman was not dead at the time the operation was performed the midwife was held by many to have committed murder. A post-mortem examination, however, cleared up the cause of death and all the parties concerned were exonerated. The performance of such an operation by anyone but a properly qualified medical man, especially in a case in which the patient was not dead at the time of its performance, might well expose the persons concerned to a charge being preferred against them of manslaughter, if not of murder.

ANNUAL EXHIBITION AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE affairs of the Royal College of Surgeons of England are usually conducted in the quiet and well-ordered manner characteristic of our older institutions, so that events of considerable interest to the medical public may pass by unobserved. Every year on the day of election to the Council and the two succeeding days—July 1st, 2nd, and 3rd of the present year—all the specimens that have been presented or purchased or prepared for the Museum during the previous 12 months are placed on exhibition in the Council Room of the College, and give those who are engaged in active practice an opportunity of seeing in a concrete form an epitome of recent advances in surgery and in morbid, human, and comparative anatomy. The additions for the present year, some 380 in number, form a small museum in themselves, and represent gifts and purchases from all parts of the world. Those interested in the teeth and palates of primitive races will have an opportunity of examining a series of 83 crania of a primitive tribe of negroes obtained from a remote part of the Congo Free State. Mr. Rickman J. Godlee has presented a series of casts illustrating the cases of torus palatinus recently described by him. Mr. Shattock's preparations to show the manner in which fat deposits are made in various members of the vertebrate form an instructive series. Through Mr. T. P. Legge a specimen has been obtained from Western Australia to exemplify the operation of infundibulation practised by the aborigines of that part. Of the 90 specimens added to the pathological and teratological series, there are several of exceptional importance, and all of them show some new feature of diseased action.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION.

As will be seen by a notice in another column the annual meeting of this association, which is to be held in the very centre of London—that is to say, the Guildhall—will include a conference of the Poor-law Medical Officers of England and Wales upon the recent reports of the Royal Commission on the Poor-laws and Relief of Distress. It is particularly hoped that as many Poor-law medical officers as possible will attend this conference, for three of the Royal Commissioners are to be present, and the papers to be read are practical. It is probable, therefore, that the discussion which will ensue will deal with the highly important subject matters in a valuable way, and that much light may be shed on the difficult question of the administrative methods necessary to amend our existing system of medical relief.

EXCESSIVE URBAN MORTALITY IN IRELAND.

THE relatively high rate of mortality that prevails in the urban population of Ireland has scarcely received the attention that the subject deserves. The returns issued by the registrars-general for the several parts of the United Kingdom show that while the death-rate during last year did not exceed 13·8 and 15·2 per 1000 respectively, in London and Edinburgh, it was equal to 23·0 in Dublin City and to 21·5 in its larger registration area. This excessive urban mortality was not, however, confined to Dublin. It appears from the Annual Summary issued by the Registrar-General for Ireland, that the annual death-rate during the 53 weeks of last year, in 22 of the principal urban districts of Ireland (including Dublin), was equal to 20·2 per 1000, whereas the death-rate during the same period in 76 of the largest towns in England and Wales (including London) did not exceed 14·9. The rate of urban mortality in Ireland shows a marked excess, moreover, not only in comparison with the rate of urban mortality in England and Scotland, but also when compared with the mean rate of mortality in the whole population of Ireland. The above-mentioned death-rate of 14·9 per 1000 last year in the 76 large English towns exceeded the mean death-rate in the entire population of England and Wales by but 0·2 per 1000; whereas in Ireland the mean rate in the 22 urban districts exceeded the rate in the entire population of Ireland by no less than 2·5 per 1000. This marked excess of urban mortality in Ireland, whether compared with rates of urban mortality in other parts of the United Kingdom, or with the death-rate in the entire population of Ireland, calls for full and careful investigation. It is a well-known fact, to which special attention has been drawn in connexion with old-age pensions in Ireland, that the Irish population is abnormal as regards its age-constitution, containing as it does an undue proportion of elderly persons, the result of the long-continued emigration of young adults. The crude annual death-rate in Ireland was equal to 17·7 per 1000 both in 1907 and in 1908; but corrected for this exceptional age-constitution on the hypothesis of an age-constitution identical with that prevailing in England and Wales, the Irish death-rate in each of those years is reduced to 16·1 per 1000. This corrected rate, however, compares unfavourably with the death-rate in England and Wales, which did not exceed 15·0 in 1907 and 14·7 in 1908. The Irish returns unfortunately do not afford the means for correcting the Irish urban rate of mortality for the abnormal age-constitution of the urban population, but, as the age-constitution of urban populations is invariably conducive to a lower rate of mortality than the age-constitution of rural populations, it may safely be assumed that the excess of mortality in the Irish towns, measured by the crude death-rate, is understated. The fact, therefore, that the mean uncorrected death-rate in the 22 Irish town districts during last year exceeded the death-rate in the whole of Ireland by 2·5 per 1000, or more than 14 per cent., affords conclusive evidence of unsatisfactory sanitary condition in the towns, calling for more efficient sanitary administration.

THE PROPHYLAXIS OF YELLOW FEVER.

IT cannot be said that the specific germ of yellow fever has yet been discovered, but there is a general consensus of opinion that it is an ultra-microscopic organism which defies detection by the present means at our disposal. Based, however, on the discovery that the transmitting agent of the disease is a mosquito, the Stegomyia fasciata (or calopus as it is termed by American experts), the mode of spread of yellow fever and its prophylaxis have been fully and carefully worked out during the last few years. Dr. G. M. Guiteras, who has taken a conspicuous part in this work, has recently prepared a pamphlet on the "Prophylaxis of Yellow Fever," which has been issued by Surgeon-General W. Wyman, chief of the United States Public Health and Marine Hospital Service, as Bulletin 17 of the Yellow Fever Institute. In this pamphlet Dr. Guiteras sets out the principles on which prophylaxis of the malady is based. He emphasises the great importance of early diagnosis of this disease with a view to immediate notification, since it is a well-established fact that the stegomyia can only become infected by biting a yellow fever patient some time during the first three days of the illness, but not afterwards. It is therefore necessary at once to protect the patient from the bites of non-infected stegomyiæ during those first three days, and afterwards to secure the protection of healthy persons from the bites of infected insects. It is admitted that early diagnosis is in many cases extremely difficult, and for this reason Dr. Guiteras urges that all cases of febrile disturbance, the cause of which cannot be satisfactorily traced in localities where yellow fever has appeared, should be regarded, at all events for the first three days, as true yellow fever, and properly protected against the bites of mosquitoes. Dr. Guiteras places great importance on educating the public as to facts concerning yellow fever and the way in which it is spread, so that their help may be given in the measures directed against the transmitting agent. He points out that if war against mosquitoes generally were declared, not only would the diffusion of yellow fever be checked but also that of malaria. All important facts as to the transmission of the malady by mosquitoes should be taught in public and private schools as well as in colleges in those areas where yellow fever is liable to appear. Children should be taught to dread a mosquito as they now do other insects. Public opinion should be so guided as to make it regard the mosquito, not only as a disagreeable pest, but also as a very dangerous one. All collections of water should be abolished or covered with oil, and all cisterns should be screened securely with fine-meshed metallic gauze. Regular and systematic house-to-house inspection should be carried out weekly if possible to see that no "water containers" exist capable of harbouring mosquito larvæ. The use also of small fish in collections of water which cannot otherwise be dealt with is recommended. Lastly, the removal of all unnecessary obstructive vegetation and the screening of doors and windows of dwellings should be carried out in infected areas. The complete extermination of mosquitoes, it is admitted, is hardly practicable, but relative extermination is well worth attempting and is likely to diminish the danger. In times of serious epidemics of yellow fever Dr. Guiteras would go so far as to invoke the aid of "martial law," since he regards the present powers available under the Republican Government to be inadequate to secure house-to-house inspection and compulsory removal of all cases to hospital. With "martial law" to support the health officials, he contends that the prophylactic measures which he advocates could be better enforced in every detail, and outbreaks of yellow fever would thus be more effectually controlled. In connexion with Dr. Guiteras's recommendations it is interesting to note that in most of our own West Indian colonies much the same measures are now being, and for some time back have been, successfully enforced. From a letter quite recently written to the *Times* by Sir Robert Boyce, who had been sent to the West Indies to advise the local governments respecting a threatened epidemic of yellow fever, we learn that pupil teachers, sanitary inspectors, and others are now being trained by means of lectures, demonstrations, and health primers to take part in a determined effort to rid these colonies of mosquito-carried disease. It is now a punishable offence to harbour mosquito larvæ upon the premises, and already a considerable number of convictions have been secured with fines varying from 1*s.* to 40*s.* A careful study is being made of the local breeding-places of mosquitoes, and also investigations as to the natural enemies of mosquito larvæ. One of these enemies has been found in the small fish named "millions," quantities of which are now being exported to other tropical countries on this account. Both Dr. Guiteras and Sir Robert Boyce are convinced that if the measures above indicated were effectually and persistently carried out, yellow fever would not often trouble those fair and fertile regions in which it so often appears, to the legitimate alarm of the inhabitants and the detriment of trade and commerce.

FALSE ECONOMIES IN THE ROYAL ARSENAL HOSPITAL.

Woolwich, or at all events that very large portion of the residents who are connected with the Royal Arsenal, is seriously disturbed by a rumour that the medical department of the Arsenal is to be cut down—presumably to save expense to the War Office. Some years ago the number of medical officers was increased from three to four, and the small hospital, which had been almost exclusively used for accident cases occurring in the works, was added to, and surgical cases of all kinds occurring among the employees were admitted and operated upon, greatly to the advantage of the men, as there is no general hospital in the neighbourhood that can be counted upon as certainly available. The Woolwich and Plumstead Cottage Hospital on Shooter's Hill has only a very small number of beds, although it is fully equipped for the most serious operations. At Greenwich, though there is, besides the Seamen's Hospital, the Miller Hospital, the accommodation is still too limited, and consequently the Arsenal employees have greatly valued the opportunity afforded them of surgical aid within the walls of the Arsenal itself. This accommodation is now, it is understood, to be put an end to, only cases of accident while at work or exceptionally urgent ones, such as strangulated hernia or acute appendicitis, being admissible. The number of medical officers is to be reduced to three and further economies will be effected by the reduction of the nursing staff. Henceforth, therefore, a workman suffering from hernia, varicose veins, chronic appendicitis, fistula, or tumour, instead of being operated on in the Arsenal hospital, where there are always expert military surgeons able and willing to relieve him, must go to swell the numbers already waiting for admission to Guy's or some other London hospital. We trust that the Government will pay more heed than it seems inclined to do to the opinions of its own officials in Woolwich, and will recognise the tragedies which may follow on any cheeseparing in respect of the surgical equipment of the Arsenal.

ABDOMINAL ARTERIO-SCLEROSIS.

Only within recent years has the fact been recognised—principally in consequence of the work of German observers—that arterio-sclerosis of the abdominal arteries may cause distressing abdominal symptoms, an abdominal analogue of angina pectoris. This fact is important, for abdominal arterio-sclerosis is not uncommon, and when it produces symptoms these are misunderstood and regarded as due to gastric and intestinal affections. The diagnosis is not difficult if the practitioner bears in mind the possibility of such a condition; if he does not, a mistake is inevitable. In the *Journal of the American Medical Association* of June 5th Dr. H. L. Akin has pointed out the frequency with which the symptoms of arterio-sclerosis in the abdomen are regarded as due to gastric disorder and has reported a number of cases. A stockman, aged 56 years, who had enjoyed good health, "began to have trouble with his stomach." He took only two meals a day—a hearty dinner and supper. In the morning he felt well, but after dinner or supper if he walked a quarter or half a mile he experienced a feeling of fulness in the epigastrium and pain under the ensiform cartilage running down the left arm. He felt oppressed as if he could not breathe and must stop for a time. On stopping he belched up much gas and then could proceed without further trouble. If he sat still for half an hour after meals he generally had no symptoms. If he drank much fluid with his meals, especially ice-water or tea, he generally had an attack. His bowels acted regularly. He was a large meat eater and was subject to attacks of gout about every six months. The aortic second sound was accentuated; the pulse was 90 and of high tension. The urine contained a little albumin, but no casts. The acidity of the gastric juice was normal. As this was the first case of the kind which Dr Akin observed he regarded it as simply gastric. He prescribed three meals a day, restriction of meat, and rest, which gave temporary relief. Then a typical attack of angina pectoris showed the true nature of the case. In a second case a healthy farmer, aged 55 years, began to have gastric symptoms. After supper his stomach became distended with gas and he had a feeling of oppression so that he could not lie down. Eructation gave immediate relief. He was treated without effect by many practitioners for dyspepsia and then for dilatation of the stomach. Examination showed a double aortic murmur, an enlarged ascending aortic arch, and general arterio sclerosis. Rest and vaso-dilators followed by potassium iodide gave much more relief than the gastric treatment. In other cases the symptoms are intestinal, pains around and below the umbilicus coming on two or three hours after meals, and tympanites. In such cases Ortner has found after death the aorta thickened and calcified, a thick deposit of lime salts about the mouths of its branches, especially the mesenteric arteries, and the latter rigid and contracted. The small branches of the latter rigid and contracted. The small branches intestinal walls were poorly nourished and their muscular coat was weak and unequal to its work. Ortner therefore compared this condition to "intermittent claudication," which is due to arterio-sclerosis of the lower limbs. This produces ischæmia of the muscles. After walking a short distance the patient is seized with pains and limps because the blood-supply of the muscles is insufficient for exertion. Erb supposes that during the attacks there is spasm of the arteries. Similarly the abdominal attacks may be explained by arterial spasm. The interference with the blood-supply of the stomach or intestines would impair all their functions—motion, secretion, and absorption. The atony and fermentation would account for the distension and flatulence. Abdominal arterio-sclerosis may also produce other symptoms which may prove misleading. There may be pain and tenderness in the epigastrium combined with vomiting, backache, and hæmatemesis, suggesting gastric ulcer. Perutz of Munich has recently recorded a case in which he had great difficulty in excluding gastric cancer, and Dr. Akin has seen a similar case. In the diagnosis the practitioner should not be led astray by complaints of indigestion and confine his attention to the stomach, especially when nocturnal symptoms with attacks of distension, heart disturbance, and dyspnœa are prominent. Then examination of the vascular system may show a somewhat enlarged heart, an accentuated second sound, rough sounds over the aorta, episternal pulsation and hardened arteries usually with a high-tension pulse. There will also be attacks of cardiac pain radiating to the arm, tenderness over the abdominal aorta down to the navel, and perhaps urine increased in amount and slightly albuminous. Treatment for a time at least is often satisfactory. The diet should be plain and digestible. The evening meal should be limited so as to prevent flatulence. General measures, such as bathing, fresh air, suitable exercise, attention to the bowels, and relief from work, are indicated. Vaso-dilators, such as diuretin, sodium nitrite, and nitroglycerine, give good results. Diuretin in from 10 to 15 grain doses thrice daily is the most effective. Potassium or sodium iodide in from 5 to 10 grain doses for a long period is also useful.

OX GALL AS CULTURE MEDIUM FOR TYPHOID BACILLI.

As long ago as 1894 it was remarked by Fischer and Leo that Eberth's typhoid bacillus lived and multiplied within the gall-bladder. Ten years later Conradi, when examining the blood of typhoid patients for Eberth's bacillus, thought that bile would exert an anti-coagulating effect, and mixed at first 0·5 cubic centimetre of blood with 1 cubic centimetre of bile. He afterwards adopted a medium composed of bile, glycerine, and peptone. Subsequently Kayser turned his attention to bile as a culture medium for the typhoid bacillus, and after experimenting with different proportions of blood and bile came to the conclusion that the best results were obtained when 2·5 cubic centimetres of blood were sown in about 5·0 cubic centimetres of pure bile. Recent investigations made by Dr. Nicolou Bettencourt and Dr. Garcia Regalla, which are published in the *Jornal da Sociedade das Sciencias Medicas* of Lisbon, would appear to show that such a blood culture provides a more trustworthy diagnostic test in the early stage of typhoid fever than Widal's better-known procedure, which, however, is to be preferred later. The blood was taken from the veins in the bend of the elbow by means of a sterilised syringe and added to pure ox gall in small flasks, which were then placed in the incubator at a temperature of 37° C. for from 12 to 30 hours. Generally the characteristic colonies were produced in Conradi's medium in 18 hours. If the result was negative the examination was repeated for six consecutive days. The identification was confirmed by Widal's reaction and in most cases also by Kolle's quantitative agglutinative method. Of the 11 cases examined during the first week of the disease every one gave a positive result. Of the 17 examined during the second week 14 gave positive results, but only four out of the eight which were in the third week acted thus. One important point of interest to practitioners at a distance from a bacteriological laboratory was made out very clearly—that is to say, the blood-sown bile may be kept for as much as 30 hours before being placed in the incubator. Again, it appeared that the cases of slighter severity were those which gave negative results in the second and third weeks. After a long incubation, 36 hours, it was possible to distinguish typhoid from paratyphoid bacilli. While the number of cases reported in Dr. Bettencourt's paper is too small to establish the certainty of the test, the ease with which it can be employed and its apparent special suitability at the very commencement of the disease render it worthy of more extended trial. It may be remembered that more than one recent observer has called attention to the connexion between affections of the liver or gall-bladder with typhoid fever; thus, in 1904 Dr. A. Guinard[1] reported a case of large hepatic abscess occurring during the course of typhoid fever which when opened was found to contain typhoid bacilli in the pus. Subsequently Dr. B. A. Thomas[2] collected 154 cases of typhoid fever with cholecystitis, B. typhosus being found in the gall-bladder in 50 per cent. of all. Dr. Quénu[3] considers typhoid fever as a primary septicæmia, the liver being the primary agent for the elimination of the B. typhosus which is brought to it by the blood, and he thinks many jaundices are nothing less than primary infections of the bile passages by the B. typhosus. Weil's disease, too, he thinks, is probably produced in the same manner. We may refer our readers to an annotation published in THE LANCET of Oct. 10th, 1908, p. 1091, in which is recorded a brief account of the early diagnosis of enteric fever by blood culture upon Conradi's plan.

HYDROA GESTATIONIS.

ON p. 1827 we print an account of that rather rare condition known as herpes or hydroa gestationis which has been sent us for publication by Dr. Ernest Ward. The case recorded is typical, for the attacks occurred in several successive pregnancies, the eruptions appearing generally in the latter half of pregnancy and on one occasion in the puerperium. Until recently this disease was always attributed to the nervous system, but it is recognised by most dermatologists that it is probably the result of a toxæmia, such being very common at some stages of pregnancy. There are, however, probably other factors in the production of the disease. The fact that for the most part the legs are only or mainly affected points to the venous congestion which is so often present during pregnancy as assisting in causing the morbid condition, and it is not unlikely also that the instability of the vaso-motor system frequently met with in pregnancy may also be an important factor. Examinations made into the bacteriology of the fluid in the vesicles seldom show anything of importance, and it is very doubtful if microbic infection has any part in the production of the primary condition, though later secondary septic infection is very common. The onset of the affection appears to occur most frequently in the winter, from which it might be supposed that the affection was seasonal and due to cold, but it is not unlikely that the wearing of woollen, and therefore more irritating, stockings in the winter may favour the appearance of the disease in that season.

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[1] Medical Record, Oct. 23rd, 1904, quoted Medical Annual, 1906

[2] New York Medical Journal, Oct. 12th, 1907; quoted Medical Annua 1909.

[3] Revue de Chirurgie, 1908, xxxviii., 571; quoted Medical Annual, 190

THE CORONERS' SOCIETY OF ENGLAND AND WALES.

THE annual banquet of the above society was held at the Holborn Restaurant, London, on June 17th, when Dr. W. Wynn Westcott, President of the society and coroner for North-East London, occupied the chair. Amongst the guests present were several well-known medical men. The usual loyal toasts having been proposed and honoured, Mr. G. Vere Benson proposed that of "The Imperial and Local Government," a toast which he thought imposed upon him a difficult task, but which he discussed from an appropriate point of view—namely, the relations of the office of coroner to Government administration. Those relations in the past had been satisfactory, he said, and he hoped and thought that they would continue to be so. Mr. George Radford, M.P., in replying, referred to the importance of the office of coroner. He confessed that he was not strongly qualified to speak on the subject, but he supposed that when a man became a Member of Parliament he was expected to speak on any subject. Mr. P. O. Simmonds, of the London County Council, followed in a speech which dwelt upon the exactions on the time of a councillor which the office pressed upon him. The proceedings closed with the toast of "The Officers of the Society," and during the evening an excellent, though not long, programme of music and recitals was given.

A TELEGRAM from the Governor of the Mauritius, received at the Colonial Office on June 19th, states that for the week ending June 17th there were 2 cases of plague and 1 death from the disease. As regards Hong-Kong, a telegram from the Governor, received at the Colonial Office on June 21st, states that for the week ending June 19th there were 16 cases of plague and 13 deaths from the disease.

APPLICATIONS are invited for appointment to the Chair of Surgery in the University of Edinburgh, vacant by the resignation of Professor John Chiene. Applications, with testimonials, should be lodged with the secretary to the curators, Mr. R. Herbert Johnston, at 4, Albyn-place, Edinburgh, on or before July 15th.

THE annual meeting of the Imperial Cancer Research Fund will be held at Marlborough House on Friday, July 9th, when H.R.H. the Prince of Wales, President of the Fund, will take the chair.

Mr. W. A. Mackay, M.D. Edin., of Huelva, Spain, has been awarded the White Cross of Carlos III. for distinguished surgical service rendered to the Civil Guard.

Dr. R. Deane Sweeting has been appointed to represent the University of Oxford at the forthcoming Sanitary Congress at Leeds.

MEDICAL CONGRESSES IN ST. PETERSBURG.—The Minister of the Interior has authorised the calling of an International Accoucheur-Gynæcological Congress in St Petersburg, to which end a committee has been appointed under Professor Otto. In order to acquaint foreign medical men with Russian health resorts, mineral waters, and other special curative agencies in the country, the organising committee is arranging excursions to Moscow, the Crimea, and the Caucasus. The Minister of the Interior has also granted permission to the President of the St Petersburg Ophthalmological Society, the Academician Be[illegible] to convoke the Twelfth International Ophthalmologic[illegible] gress in St. Petersburg, in July–August, 1913.

MEDICO-LEGAL EVIDENCE IN A CASE OF SUDDEN DEATH.

BY GEORGE E. WHERRY, M.C. CANTAB., F.R.C.S. ENG.

WITH the Employers' Liability Act and similar legislation there is an increasing tendency to make out that diseases are the result of accident. Among hospital patients especially there is a determined desire to put down every malady to accident. Employers of labour come themselves, or send their deputies, to the hospital to inquire about patients with motives connected with insurance awards. Thus there is more litigation in the law courts. In some cases patients attempt fraud by unfair statements; more frequently they exhibit great cunning in obtaining compensation As an example, a man in the employ of a corporation was pecking up the road with a pick when a piece of granite flew into his eye and destroyed the sight quite hopelessly. It was his only eye; the vision in the other had been lost for 20 years. When he had recovered from the shock of the accident, which had completely blinded him, I found in the old blind eye a small area of clear cornea, a probable absence of lens, and other conditions not unfavourable for operation. I therefore urged the man to let me try to give him a little sight, especially as there was nothing to lose and he might gain something. Nothing would induce him to permit any operation, and he left the hospital. But some months after this he came to me, he having obtained the full compensation awarded for total blindness. He then wished to be operated upon; as a result he gained fair guiding sight and a very different outlook on life. The foregoing remarks are merely a preamble in justification for offering to print a short history of a recent medico-legal experience, only withholding or substituting names and avoiding unnecessary details in my narrative.

A man named Luke left his home in the Fens at 9 o'clock in the morning in his usual good health to buy potatoes, and he bargained and chatted until 4.30 P.M., when he left the "Red Ruin" public-house and got into his cart, which was waiting outside, to drive home again. He waved his hat and was very cheerful, and drove in such a manner as to bring two neighbours off the fields; these stopping the horse rather suddenly caused Luke to fall off the shafts on which he had been lounging. He remarked to one of the neighbours, "Oh, the drink, Mr. Quarto." By the fall he got an abrasion of the left cheek whic [illegible] fell, or partly f [illegible] n ing himself ag [illegible] o clothes talked [illegible] recovered, so that and chatted and seemed to have entirely recovered, so that at about 5 50 the constable left him in charge of his horse and cart. The horse was known to be shy of motors and engines At about 6 o'clock, some ten minutes after the departure of the constable, Luke was aware of a road-engine approaching in front of him; he held up his hand and walked by his horse, but the engine-driver refused to stop, until a postman coming up the engine at last did stop, and the postman passed by. Luke tried to pass also, but his horse became more and more restive, pulled his master along, and in the struggle threw him down violently and dragged the cart over him. He died in a minute [illegible] The constable who had left him at 5 50 saw the [illegible] at 6 10.

By the coroner's order an examination of the [illegible] made by the nearest medical practitioner [illegible] after the death. There was an abrasion [illegible] prominence and no other marks on the [illegible] The brain contained a sub-dural clot of the [illegible] the right cerebral hemisphere; [illegible] vessels. At the inquest the [illegible] that [illegible] blood [illegible] the n [illegible] accou [illegible] that in any case he [illegible] home.

More than a year [illegible] compensation for the [illegible] tried before a judge without a jury. Besides the medical evidence already quoted a physician attending as an expert witness came down from London. He agreed with the opinion that the bleeding which killed Luke came on soon after 4.30 outside the "Red Ruin," and accounted for the staggering gait and other vagaries described, and that he would have died in any case when he got home. Accounts were related of men supposed to be drunk being put into prison cells and found dead in the morning from an intracranial bleeding. Luke was said to have had a period of recovery, and then the excitement and struggle with the horse proved fatal or accelerated the inevitable end. The widow's advisers asked me to give evidence, and I read the depositions, and was in court all the second day of the trial to hear the witnesses on that day. When the evidence of the two medical men had been taken there was an attempt, on some legal point, to prevent my evidence being taken; but the judge overruled this, allowing at the same time the other medical men to have the last words in a recall for a second examination. The salient points of my rebutting evidence the judge appeared to take down in longhand. I quote from a newspaper this paragraph.

> Mr. Wherry stated that in view of what he had heard he considered that Luke died from external violence and without that violence he might be alive now. The suddenness of the end was what he chiefly relied upon in this statement. Cases of hæmorrhage without external violence did not die in a minute or two, except in very rare cases in which the vital centres were attacked. A bleeding the size of a pigeon's egg, laterally placed and formed without external violence, would have required at least *an hour* to cause death. Sir William Gowers would give at least *two hours*. In this case [illegible] sudden, and he contended that this was [illegible] external violence. It was very easy to acc[illegible] dition of the man by assuming that he was [illegible] had been dazed by a fall from which he afterwards recovered. He did not think it fair to say technically that th[illegible] He believed the man died of concussion [illegible] once the vital centres, both respiratory an[illegible] that without external violence the man wo[illegible]

In cross-examination I was asked to listen to a sentence from a standard book on medical jurisprudence. How a man with cerebral hæmorrhage might appear to be drunk and then be clapped into a prison cell where "he would suddenly grow worse and die." "Do you agree with this?" "*The growing worse is sudden, but the death is not sudden.*" "Then do you say the book is wrong?" "*I am allowed to make comments and interpretations.*" "Was Luke drunk when he came out of the 'Red Ruin'?" "*He was market-merry.*" "That may be a pretty expression; but was he drunk?" "*He was happy, he waved his cap; you will allow that there are stages.*" "But was he drunk?" "*You wish me to answer yes or no?*" "Certainly." "*Then you wish to dictate my answer. He was not drunk when the constable left him.*"

It was necessary for me to show that the fall which caused the abrasion on the left cheek did not by contrecoup cause the clot on the right side of the brain. This would have meant a great commotion and a period of unconsciousness, not a period of merriment. Luke also probably became rather over-cautious as he recovered from his first excitement. About a month later the judge gave judgment for the plaintiff for the full amount claimed, with costs.

Apart from the question of drunkenness, which in these cases must be often a matter of opinion, there is the very serious question of the antecedent bleedings and clot formation in cases of death from violence. Here is a case of a man, coming out of a public-house, who is thought to be drunk by his friends, and thinks himself so. He is drunk as to his legs if not as to his head. He recovers, and is considered to be sober by an experienced constable. Then he is killed suddenly by a violent fall, and the medical evidence is to the effect that intracranial hæmorrhage began an hour and a half before the suddenly fatal end. If in giving this narrative I have taken too much my own point of view, this need not affect the real interest of the case. One has only to suppose it to be a trial for murder to realise the importance of this sort of experience to our profession.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* The title of Professor has been granted to Dr. Arthur Alexander, *privat-docent* of Laryngology, and to Dr. Max Levy-Dorn who has charge of the Röntgen Institute in the Virchow Hospital.—*Breslau:* Dr. Hans Vogt, Assistant Physician in the University Clinic for Children, has been recognised as *privat-docent* of Pædiatry.

MOTORING NOTES.

BY C. T. W. HIRSCH, M.R.C.S. ENG., L.R.C.P. LOND.

On the Cost of Running a Small Single Cylinder Two-seated Car.

Mr. F. H. Preston of Plumstead bought in September of last year a 6-h.p. Rover car, an automobile which I described in THE LANCET of August 22nd, 1908. This car was used daily, and in six months he covered 1552 miles. He has very kindly given me the following particulars as to the cost of running for that period, and as they seem about the average that a medical man who buys a good little two-seater car, such as the Rover, Darracq, small Star, little Renault, &c., may expect, I am publishing them; they should be some sort of guide to prospective medical motorists:—

	£	*s.*	*d.*
* Petrol (77 gallons)	4	1	1
Lubricating oil (10 gallons)	1	7	0
Kerosine (used for cleaning)	0	1	6
Cleaning odds and ends, selvyt, spoke brush, pipe-clay, brasso, chamois leather, &c.	0	4	6
Waste, oil can, funnel	0	7	4
Repairs (glass to replace broken one in mileage recorder), repairs to radiator, clutch, and accumulator...	0	11	6
Pair non-skid covers	8	17	0
Annual licence for car (under the new Budget this would only be £1 1s., but to compensate the petrol for six months would be 25 per cent. dearer)	2	2	0
Licence for male servant (for the year)...	0	15	0
Water-rate (year's tax)	1	0	0
Total	£19	6	11

Mr. Preston tells me that the car was out every day, and excluding a puncture on one occasion he has not had any delays. The tyres were bought as spares and should consequently be charged to a special annual account and not to the six months. From personal experience I find that with ordinary running and luck two covers a year and one or two tubes are ample; with extra heavy covers on the back wheels they should run for a year, and then if re-treaded, do for another year on the front wheels. Non-skids, however, do not last as well: nine months' constant wear is about the life of a studded cover on a back wheel. The taxes apply to a year's running and not to the six months. The garage was in a stable on the premises and is not charged. The motor attendant, who does other duties, is likewise not charged for. Probably a lad at 10*s.* a week could do the work. The accumul[illegible] it home off the main, a switch with [illegible] Thus charging half cost of new tyres, half water-rate and licences, and 6*s.* for charging of accumulators, the cost for six months' running [illegible] wage of motor-cleaner amounts to £13 5[illegible] a mile; and this is what a light car driven by the owner should come to, or say with a fair allowance for repairs £30 to £40 a year, and such a car should run for five years. I myself still use a little 6-h.p. Wolseley, which is six years old and has not cost more than £35 a year to run, including tyres, spare parts, petrol, oils, &c., but excluding the cleaner. I certainly consider my car to be now as good as when I bought it and expect to use it for many a year to come.

Head Lights Brackets.

I have had some queries sent me regarding my notes, published in THE LANCET of May 8th, as to the best bracket for a single head light. I believe the simplest fitting is to bolt under each front spring a curved piece of wrought iron so shaped that the two ends come in front of the radiator and are the correct distance from one another, so that the bracket holes on either side of the lamp can respectively drop over these ends. Any blacksmith will bump out such pieces for a couple of shillings, and the ends which fix to the springs can be so shaped that they can be fixed and held under the bolts which attach the radiators to the springs or front frame of the car, as the case may be. If they are made so that the lamp is just above the radiator they can be given a slight tilt forward so that the beam of light from the lamp illuminates the near ground as well as the road ahead.

On the Choice of a Head Light.

Messrs. Joseph Lucas, Limited, have written in reference a previous article of mine on this subject that their latest

st. It certainly threw out a broad beam of light of great tensity straight ahead, which evenly ill

the car, but I still felt, in fact noted,

r in another one that the light was somewhat dazzling to yone approaching. I, however, fail to see how any lamp n absolutely avoid this, and in this particular lamp it is duced to a minimum. I gave the lamp a fairly good test, I came on a very dark night all the way from Bexhill to oolwich; the first part of the journey I purposely took *via* rrow cross-country lanes through Ninfield, and by the cellent light that the lamp gave I was able to go as ickly as in daytime. I can certainly recommend these head ghts for all who have to drive a motor at night-time in unlit untry winding roads.

Some Points in the care of Acetylene Lamps.

The great thing with all acetylene lamps is to keep every rt clean; it pays, and at the end of a run turn off the ater first, then the gas, and do not let the light burn out. you neglect this, then you have only yourself to blame if lf an hour is wasted fiddling with a wrench to remove the rner, and then with a needle or bit of wire to clear a ocked jet. As for carbide, any ordinary dustless kind swers; that of the same size as is used for cycle lamps the best—that is, bits not quite as large as monkey-nuts.

Extra Electric Lamps.

Those who prefer not to rely on one system of illumination ill like the simple electrical connexions made by Messrs. ucas. They screw into the back light and are well out of e way. The petroleum burner remains in position while e electric lamp is used, and it is only needful when rning oil to remove the electric bulb.

Some Points in the Diagnosis of Automobile Torts.

The process of correct solution of motor-car maladies is ry like the method we were taught to adopt in our student ys when essaying to solve the obscure medical and surgical ddles which we then encountered. Firstly, a list of the ssible diseases is made, and these severally are then struck t by proving that they cannot exist, until finally but one mains, and that as a rule is the true one, chiefly because ery other possible source of morbidity has been eliminated. nother point of similarity is that, as in one's medical work, in automobile affairs, the most simple is often the real planation. The young energetic man fresh from the test seat of learning is rather keen on holding forth on a se of erythema, and speaks of the cocci of Luzzato, while e older general practitioner probably correctly diagnoses "measles." It is just the same in automobile matters. ecently I was talking "petrol" with a medical friend; he

four-cylinder car

nd high-tension

used to leap up

ow made it jump and groan and call for the low gear. My llow automobilist was worried; the ignition, he said, was rrect, the plugs clean, with points the correct distance part, and the car was vile when the two methods of exploding the mixture were acting together, as well as when ey were acting separately. The petrol had paid duty and as good, and the carburettor jet was not blocked; even e petrol tap was not turned off, neither were the brakes n, nor did they foul the drums. The questions submitted were: Does the engine need dismantling? Has crank-bearing fired? Is there a broken piston-ring? as a ball-bearing in the transmission-gear seized? On examination it was found that the engine started easily and the arburettor, when the needle valve was agitated, flooded, o there was no doubt that the petrol-supply was correct, nd as the automatic air inlet worked it was positive that he mixture was suitable. The brake drums were cool after run; so they could not be holding the car back, the gearox bearings were like ice cold, so that loss of power due to riction in

The simplest xplanation.

he engine was tarted with both ignitions on, and each plug, with the engine running, was shorted by means of the metal end of a screw-driver; it was then discovered that the high-tension plug of No. 3 cylinder did not spark, also when the magneto plug of that cylinder was taken out and shorted on the frame that that plug did not spark at the points. The problem was thus very simple: the engine lost power because, even with double ignition, one cylinder was missing fire, one plug had become oily and so was shorting internally, the other did not fire because the trembler contact blade

the commutator had worked loose and the platinum

ere were too far apart. After an adjustment that took but a few minutes the car regained all its lost power. I only make mention of this case as it shows that motor worries are often due to very trivial causes, and that these, with a little thoroughness in examination, can, as a rule, be quickly detected, and then, of course, equally rapidly cured.

The 14–16 H.-P. Darracq.

This car belongs to that type of automobile which is now so popular; it is one of the light fours, light on tyres, and also, because of its moderate but ample horse-power, light on its owner's pocket in the matter of tax and petrol. Personally, I believe that the popular demand that even small cars should have four-cylinder engines is wrong, especially for members of the profession who drive themselves. With a single cylinder the owner, in order to obtain a decent speed, keeps the ignition and compression at concert pitch, and soon learns how to manipulate his throttle and ignition levers so as to get the best result out of his engine. With a four cylinder there is a reserve of power, consequently the owner may not always keep his car at concert pitch. Still, of course, four cylinders are more silent and more powerful anyway when kept tuned up. But to return to the car under consideration. It has a wheel base of 8 feet 6 inches and can well take a roomy side entrance body or, for those who like to be driven can be made into a landaulet. The engine is of the *moteur bloc* type, the four cylinders and valve chambers being all cast in one piece; the bore is 85 millimetres and the stroke 100 millimetres. The valves

erated by a single cam shaft, and

on this shaft is brought

used in conjunction with

ntly had a good proof of the real need of having two separate systems of ignition. I was out in my car, driving on the magneto, when she suddenly stopped; the accumulator method of exploding the mixture was switched on, and without any delay I was able to proceed home. Inspection then showed that the magneto could not have been repaired on the road; the carbon brush was clean, the platinum points were the correct distance apart, and they made and broke contact correctly. The fault was with the slip ring which had burnt out, and the armature also required recovering, defects which could not possibly have been seen to on the road. So if any medical man invests in these truly excellent little cars I strongly

counsel a double ig

experience and some

car, as my partner o

over a year, and during that time his repair bill merely amounted to 9*d*. The older type had, however, serious constructional defects: the magneto was on the valve side of the engine, and in order to get the valves out, so as to grind them in, the magneto had first to be removed; the valve lifters, too, had solid ends. The new 1909 type, which I inspected in course of construction at the well-equipped Darracq works at Suresnes, is greatly improved; the magneto is now on the other side of the engine and is driven by the shaft that drives the water circulating pump. It is held in position by a screw clamp which abuts against a lug specially cast for the purpose on the cylinder; thus on the release of one accessible nut the magneto can be removed. Those who have had to first drop the shield and then crawl, to the damage of their attire, under the car frame to undo two nearly inaccessible nuts will, I am convinced, appreciate this undoubted great improvement. The valve lifters, too, have rollers where they come in contact with the cams and are made of steel working in cast-iron guides. The carburettor is of the float-feed and spray type, and an automatic air intake ensures

point now

great economy

ure that I

that there is a

at I should

should like to see altered about this

like to be able to remove the jet without taking down the carburettor, and I should also welcome a carburettor that could be dismantled without having first to slacken the inlet and exhaust pipes. Still, as a fine gauze washer is interposed where the petrol pipe enters the float chamber, there is little likelihood of having to do this operation. I have driven one of their higher powered cars, and only once was I held up by a blocked jet, and then that was my own fault, as instead of cleaning the gauze strainer when it was blocked by dirt I pushed a skewer through it, and thus permitted foreign matter to get to the jet. Lubrication is well provided for, and in lieu of the not altogether satisfactory pressure feed lubricator, one worked by a pump, operated by a rod from a little crank on the end of the cam shaft, is fitted. The clutch is of the leather-faced cone type, and the gear box is fitted with three forward speeds and a reverse speed. The propeller shaft transmitting the power from the gear box to the live axle has two flexible couplings, and a torque stay, anchored to the frame by a spring, takes up the thrust. A straight through quadrant of the Panhard type is employed for the gear changing. The throttle is worked by either a lever on the steering column or by a small foot pedal; the latter is probably the best to use, as it leaves the hands free for gear changing and performing on the hooter. The brakes are of the internal expanding pattern, and means for adjustment and taking up of wear are provided. As to the running of the car there is little to be said except that the engine has a good reserve of power and that nearly all hills can be climbed on the second gear, and that the liveliness of the car and the way it can be handled are delightful.

Messrs. Darracq also manufacture a [illegible] seater, as well as an 8-10 h.p. and a 10-[illegible]; the latter is also turned out as a four-[illegible] a phaeton or detachable tonneau body. I have had many opportunities of testing these models, opportunities, too, when the cars have been driven and looked after by medical men or their chauffeur grooms, which of course is a better means of judging, than when the car is sent from the makers with an expert driver, and I must say that I have invariably found them trustworthy. In addition, the springing is luxurious, an especially important point for a medical man, who has often to spend from seven to eight hours a day in his car.

THE INSTITUTE OF PHYSIOLOGY AT UNIVERSITY COLLEGE, LONDON.

THE new Institute of Physiology at University College, London, was formally opened on Friday, June 18th, by the Right Hon. R. B. Haldane, M.P., Secretary of State for War, and the occasion was made into an interesting academic festival. The Vice-Chancellor of the University of London, Professor M. J. M. HILL, presided, and throughout the inaugural ceremony care was taken that those present should realise to the full that the new building has an importance other than that of the establishment of a first-class physiological laboratory in one of the most important teaching centres of London. Mr. HALDANE, who in the present Government may be considered the "Minister for Universities," regarded its successful completion as a sign that England was fully alive to the importance of promoting higher education, and he quoted as analogous examples of this righteous spirit the recently founded universities of Birmingham, Liverpool, Manchester, Leeds, Sheffield, and Bristol, and the new universities of Ireland. With such examples before him, he found it quite impossible to accept the gloomy views so often advanced as to the backwardness of Great Britain in the more advanced departments of knowledge. It was a healthy sign, he said, that the Government and the Treasury were waking up to the necessity of meeting the requirements of higher learning. He regarded the Institute of Physiology of University College, London, as an object lesson to the country.

In an introductory address, Lord REAY, President of University Coll[illegible]. London, struck an imperial note, pointing out that [illegible]Dorn w[illegible]shment of the Institute of Physiology was [illegible]archow Hospit[illegible]in which University College had done its[illegible]ysician in the Un[illegible] the idea that it was the mission of [illegible]cognised as *privat-*[illegible]highest centre of learning within the Empire. He expressed the hope that the generosity of the friends of the College would make it possible shortly to complete the full scheme of an institute of preliminary medical studies—anatomy, pharmacology, and physiology.

Sir ARCHIBALD GEIKIE, President of the Royal Society, and Dr. H. A. MIERS, Principal of the University of London, moved and seconded a vote of thanks to Mr. Haldane, and the latter referred especially to the rapid development of corporate life within the university.

Professor E. H. STARLING, the only other speaker on the list, expressed in his own name and that of his colleagues the gratitude they felt to Mr. Haldane, to the eminent foreign biologists, and to others present for the sympathy they had shown. Mr. Haldane, he contended, was specially fitted to perform their opening ceremony because of the interest he took in the progress of University education, and because in his army scheme the lesson he had tried to instil was the ideal of service for the good of the community, an ideal essential in the work of the laboratory. The workers who were forming a brotherhood among the nations were, he contended, leading the way towards the brotherhood of the nations. He imagined that Mr. Haldane, through the lines of his battalions, could see a time when civilised men would all be common workers in the service of humanity. In conclusion, he claimed that the presence of the Presidents of the Royal Colleges of Physicians of London and Surgeons of England constituted the acceptance by the medical profession of the principle that all medical knowledge must be based on experiment.

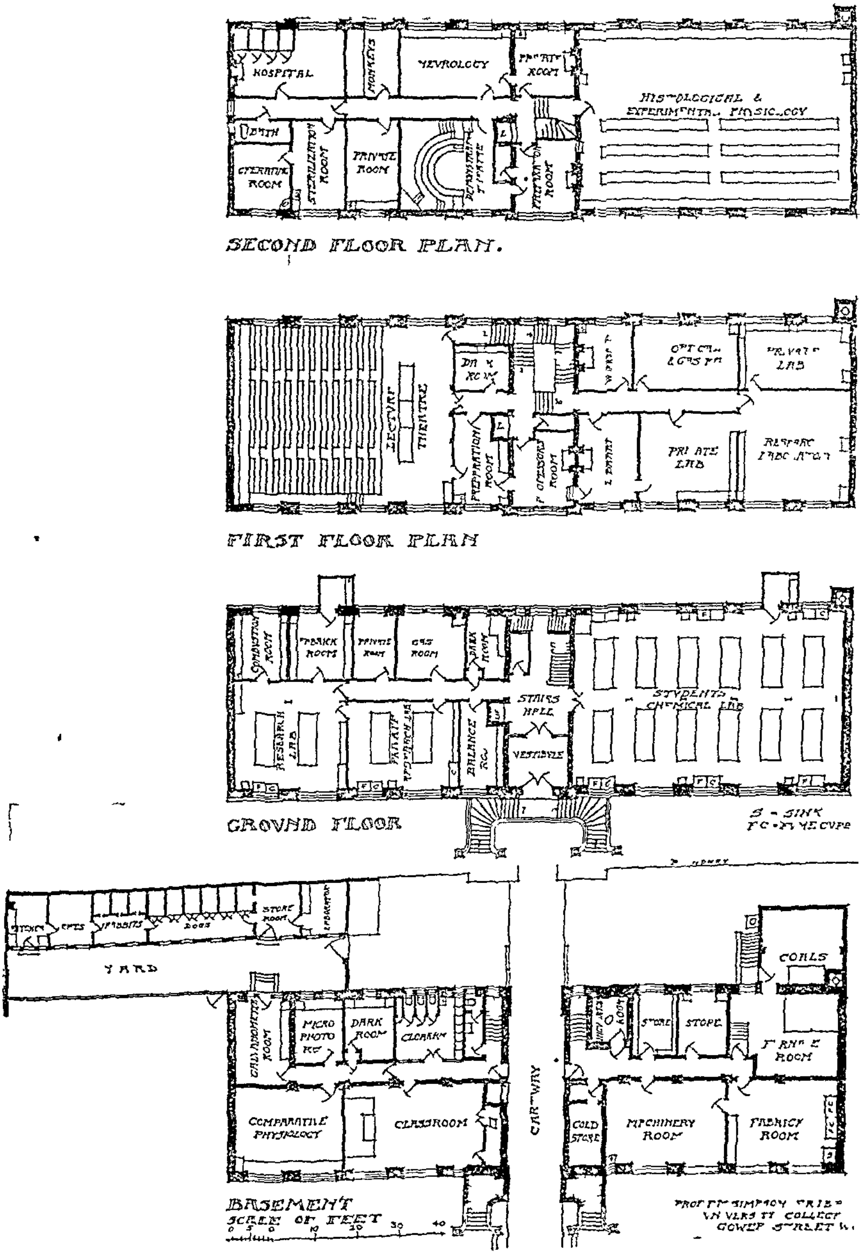
In his reply, Mr. HALDANE compared the present knowledge of science as a link between civilised nations to the knowledge of Latin possessed by scholars during the Middle Ages. Mr. Haldane then inspected the University of London Officers' Training Corps, which paraded, some 250 strong, in the quadrangle.

The Institute of Physiology remained open until 7 o'clock, and was inspected by those who had attended the ceremony of inauguration. Substantially, the building consists of four floors, basement, ground, first and second floors. (Fig. 1.) Each of these, except the basement, contains one large room about a third of the area of the building, devoted on the ground floor to physiological chemistry, on the first floor to a large lecture theatre, and on the top floor to a laboratory of histology and experimental physiology. These three rooms, a small demonstration theatre, well equipped with apparatus, recording and otherwise, and so constructed that 40 students can obtain a full view of any experiment, and a classroom for tutorial and other purposes in the basement, constitute the portion of the building devoted to the work of the students. The rest of the building is allocated to research.

The most notable feature of the teaching portion of the laboratory is the magnificent lighting that has been obtained, the maximum space structurally possible having been devoted to windows. Elaborate precautions have also been taken for efficient ventilation, a fan having been installed capable of providing a current of 12,000 cubic feet a minute through any one of the three large rooms. The fan normally removes vitiated air from the different rooms in the building, but by means of shutters in the main extract flues can be concentrated exclusively on any one of the more important rooms. Among other good features are the following. The six double fume cupboards in the chemistry laboratory are extensive and well lighted. On the west side of the laboratory is a balcony roofed in with glass but open at the back and sides, and thus suitable for manipulations involving the production of objectionable fumes. The lecture theatre is furnished with an ordinary lantern and the large epidiascope of Leitz. The windows are provided with light-tight blinds that can be raised or lowered in 20 seconds by means of electric motors, set into action by switches on the lecturer's table. The histology and experimental physiology laboratory is lighted by large windows at both sides and by a continuous skylight. Three of the histology benches are provided with continuous shafting, and five tables are also specially fitted for the purpose of experimental physiology, and in this laboratory, as throughout the building, all gas- and water-pipes are easily accessible and differentially coloured. Annexed to the laboratory is a small preparation room.

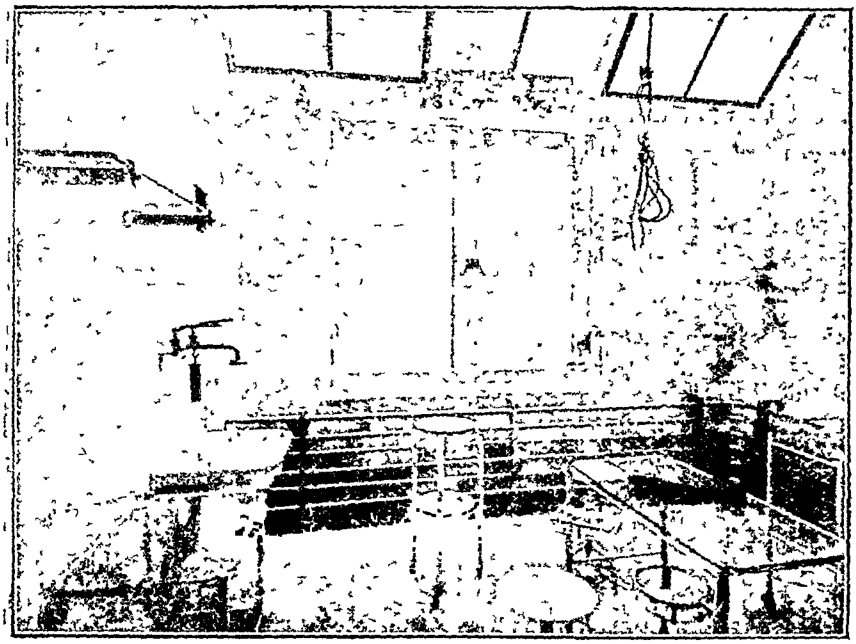
In the large portion of the building devoted to research there are, apart from the thoroughness with which such general

FIG 1



Plans of the new Physiology Institute University College London

FIG. 2.



Aseptic Department. Operating Room.

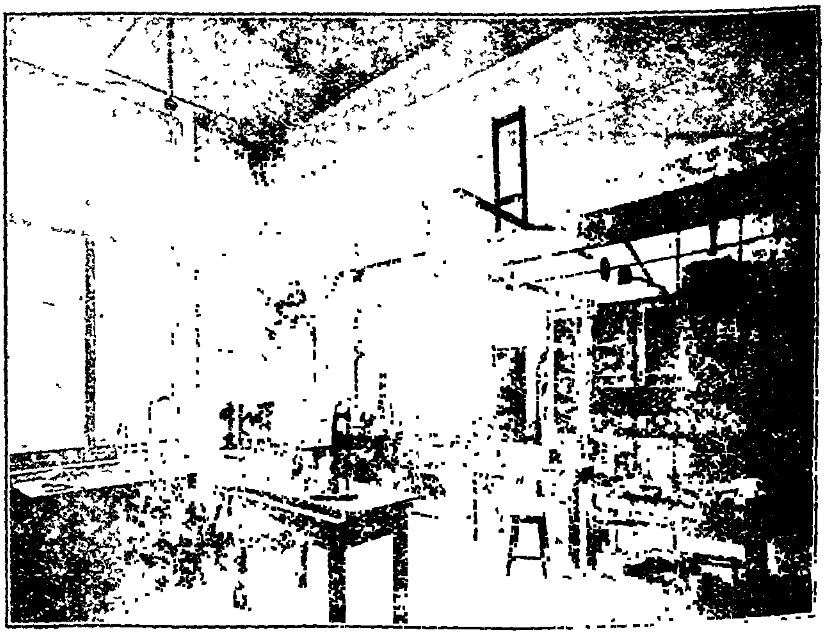
principles as that of specialisation are accepted, two outstanding features—the aseptic department and the elaborate provision made for the health and comfort of the animals. The aseptic department (Fig. 2) is on the second floor and consists of sterilisation-room, operating-room, bath-room, and animal hospital. In the operating-room similar precautions are taken to those taken in the hospitals. There are double windows to enable the room to be kept at a high temperature, specially constructed radiators to prevent the accumulation of dust, a supply of hot and cold water, and so forth. The hospital is provided with four glazed-brick kennels for dogs, and has ample space for cages for other animals. Outside the building is an outhouse containing half a dozen rooms, with kennels, cages, &c., for keeping animals, for preparing their food, and so forth. The second floor also contains a room for histological research, a room for keeping monkeys in, a laboratory for the study of neurology, and a small room for the use of the teachers in charge of histology or experimental physiology.

Apart from the lecture theatre and its preparation-room the first floor consists of the Thomas Webb research laboratory, and contains six rooms, a departmental library with accommodation for about 4000 volumes, the professor's private laboratory (Fig. 3), fitted with shafting and electric power and a chemical bench, a general research laboratory somewhat similarly fitted, but also containing two kymographs, a room for accurate physical observations, occupied by Dr. Bayliss, a large room for optical work or for investigations requiring the use of mercury gas pumps, and a small workshop. A small mezzanine floor contains laboratories, cloak-rooms, and so forth, and a committee-room. The ground floor is reserved for chemistry and contains a balance-room, a well-equipped private laboratory for the assistant professor in charge of physiological chemistry, a combustion-room, a distillation-room with an annexe roofed with glass and similar to that described above in connexion with the students' laboratory, a private office, a gas- and optical-room, and a room fitted with double doors and able to be darkened suitably for polarisation work. A large portion of the ground floor is devoted to stoves, heating apparatus, and similar purposes, but it also contains the following useful rooms: a refrigerating chamber with a storage space of 6 feet 6 inches by 10 feet by 7 feet 6 inches; a machinery room, with centrifuges, grinding mills, &c.; a *fabrik-raum* for working up materials on a large scale; an incubator chamber; a room for comparative physiology; a galvanometer room, at present used for the servants of the institute; and two dark rooms for photomicrography, &c. One of these is fitted with a masonry pillar with slate top to provide a support, free as far as possible from any vibration. It should be added that in the upper three floors of the building the rooms are divided up by Mack partitions so that they can be entirely rearranged on any floor at small expense.

The following statistical details may prove of interest. Dimensions of institute, 44 feet by 144 feet; cost of building and equipment, £20,500; dimensions of theatre, 50 feet by 14 feet by 19 feet, accommodates 200 students; dimensions of chemical laboratory, 62 feet by 40 feet: dimensions of histology and experimental physiology laboratory, 63 feet by 42 feet; dimensions of animals' sheds, 12 feet by 76 feet. The power used throughout the building is electricity. The heating is by hot water.

Academic dress was worn at the opening ceremony and a distinguished company included the Presidents of the Royal Colleges of Physicians of London and Surgeons of England, Professor M. J. M. Hill, Lord Reay, Sir Archibald Geikie, Sir William S. Church, Dr. H. A. Miers, Dr. T. Gregory Foster, Sir Felix Schuster, Professor Millar Thomson, Professor Sidney H. C. Martin, Professor D. S.

FIG. 3.



Professor's private laboratory.

Capper, Dr. J. Rose Bradford, Professor G. D. Thane, Pro-
] Cromer,
Barlow,
Holland,
Ramsay,
t Rollitt,
Sir J. W. Swan, Sir Victor Horsley, Sir T. B. Crosby, Dr. C. W. Kimmins, Professor A. Caldecott, Dr. T. Buzzard, Professor A. W. Crossley, Lieutenant-General Laurie, Professor A. R. Cushny, Dr. T. L. Mears, Dr. A. D. Waller, Mr. Stephen Paget, Dr. Ludwig Mond, Mr. P. M. Wallace, Mr. George Alexander, Mr. R. Blair, Mr. Hugh Chisholm, Dr. C Carey Foster, and Dr. W. Garnett.

THE MEDICAL INSPECTION AND TREATMENT OF SCHOOL CHILDREN.

ON June 21st a conference was held at the Institute of Hygiene on the subject of the Medical Inspection and Treatment of School Children. The conference room was well

The PRESIDENT explained that the meeting had been called in order that some definite information on the many important questions involved in the subject of medical inspection might be obtained and forwarded to the proper
Two points must not be lost sight of—the da
minimising parental responsibility and the recognition of the interests of the medical practitioner in relation to the treatment of State-educated children.

The first motion, proposed by Dr. J. C. THRESH (medical officer of health of Essex) called upon the Board of Education to issue definite instructions securing uniformity in the statistics relating to medical inspection. Dr. Thresh had prepared the following statement:—

Statistics based on Reports received from 20 Counties and Towns in England (Children Examined, over 40,000).

Reported to be suffering from—	Percentage.		
	Lowest.	*Highest*	*Apparent average.*
Tuberculous disease	0 015	4 3	0 8
Bodily deformity	0·04	6·0	2 4
Defective nutrition	0 3	19·0	8·0
Uncleanly head and body ...	1·0	60 0	18·0
Decayed teeth	0 7	25 0	8·0
Enlarged tonsils	2 0	23 0	13·0
Adenoids	1·5	21 0	6·0
External ear disease	0 8	3 5	1 8
Eye disease	0 4	8 7	3·0
Defective vision	4·1	39 0	13·0
Mentally defective .. .	0 3	4 2	1 3
Heart disease	0 4	5 0	1 5
Lung affection	0 1	2 4	1 4
Skin diseases	0 9	2 1	1 9

The total result of the figures was that 74·9 per cent of the children examined required attention, though some allow-
Dr. Thresh remarked
be expected to deal

Dr. J. F. BUTLER H. HOGAN seconded the motion, which was carried unanimously.

Mr. J. HERBERT PARSONS proposed the second motion:

> thorities should be responsible for seeing
> cal inspection of school
> e methods adopted due
> practitioners doing the
> as possible, recover the
> e children attended.

Mr. Parsons expressed himself in favour of the establishment of school clinics for ophthalmic cases. It could be done quite satisfactorily without very large expense The hospitals would not suffer if the school oculists, in the case of London, did the work which their titles suggested, instead of performing duties which teachers or nurses could easily be instructed to do. But why treat all classes of disease in school clinics? To treat adenoids the clinic would have to be a hospital. Different methods should be adopted to meet different circumstances.

Mr. H. S. BARWELL thought that it would be a good thing if the hospitals would fall in with the wish of the London County Council to utilise existing institutions, provided it was certified that patients were unable to pay, and that the almoner's department should watch the cases. Payment should not be in the form of subscriptions or donations or it would open the door to the suggestion that the Council should be entitled to appoint a certain number of governors. The Council should pay by means of a capitation grant of an elastic kind. He feared that, if the hospitals said "No" and compelled the Council to face the question of starting clinics, the whole matter would lapse, and especially that dental treatment, which had not yet been decided upon, would never be undertaken.

Dr. DAVIDSON described the treatment of school children by public authorities as another attempt to encroach on the rights of the general practitioner.

In reply to Dr. LILIAN CHESNEY, who asked what was to be done in country districts where hospitals were not available,

Dr. STEPHENSON described the practice in Somerset in dealing only with ophthalmic cases The school population
yearly inflow of new children was 7000.
quired to have their refraction tested.
this 700 needed to be seen more than once a year; by doubling the figure they got 1400. Perhaps 400 were attended by other means than by the county council. They appointed an ophthalmic surgeon for £100 for ten weeks' service, and he could see 20 children per day per school week of five days, or 1000 children in ten weeks. Spectacles were bought under a large contract for 2s 6d. a pair and supplied free to the comparatively few parents who were unable to pay for them.

The motion was then carried with three dissentients

further proposition to the effect
avail themselves, in the
ns for the treatment of children whose parents were unable to pay. This would be an excellent thing, he said, for large and small hospitals.

Dr. BARLOW seconded, on the ground that general practitioners would lose nothing if this principle were adopted.

The motion was carried.

A vote of thanks to the President terminated the proceedings.

BRITISH MEDICAL BENEVOLENT FUND.

AT the June meeting of the committee 15 cases were considered and grants amounting to £129 made to 12 of the applicants, two cases being passed over and one postponed for further inquiry. Dr. F. G. Crookshank was appointed honorary local secretary at Barnes and Dr. C. E Solomon an additional local secretary at Liverpool. Appended is an abstract of the cases relieved:—

M.R C.S., L.R C P., aged 33 years. Has had a small country practice but for the last eight months has been incapacitated by general paralysis of the insane and is now confined in an asylum. Small savings have been quite exhausted by providing a locum tenens and by unavoidable expenses of the illness, and so far it has not been possible to sell the practice Two children, the younger only a few

Voted £10

L S A No income Has supported
the last 14 years, but is now
£12

Quite unprovided for
avours to make a living by
gs a week by some distant

husband's death has been
niture and now receives an

£14 a year from the Admiralty and receives a little help from Lloyd's Patriotic Fund. Relieved 12 times, £70. Voted £5.

Daughter, aged 62 years, of late M.R.C.S., L.S.A. No income, and being mentally deficient is dependent on a relation who can only help with difficulty. Relieved three times, £36. Voted £12.

Widow, aged 62 years, of L.R.C.P., L.R.C.S. Edin. Since being left a widow, nearly 15 years ago, has supported herself by taking lodgers but finds the necessary work increasingly difficult. Two children, one just self-supporting, the other still at school. Relieved twice, £24. Voted £12.

Widow, aged 31 years, of L.S.A. No income; endeavours to maintain herself by nursing, but has been incapacitated during the last three months by acute rheumatism, and is told that a rest is absolutely essential before taking further cases. Three children, ten to three. Relieved twice, £15. Voted £10.

Widow, aged 53 years, of L.R.C.P., L.R.C.S., Ireland. Since husband's death has endeavoured to support herself by maternity nursing, but is now nearly blind. Relieved 15 times, £137. No children. Voted £12.

Widow, aged 59 years, of M.D. St. Andrews. No income. Slight occasional help from children. Lets lodgings, but has been obliged to part with some of her furniture to make both ends meet. Relieved five times, £60. Voted £12.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 15, Wimpole-street, London, W.

A COMPLIMENTARY DINNER TO DR. J. F. W. TATHAM.

THE retirement of Dr. J. F. W. Tatham from the post of Superintendent of Statistics in the General Registry Office was made an opportunity for entertaining him to a complimentary dinner at the Grand Hotel on June 17th.

The chair was occupied by Sir Shirley F. Murphy, who was supported by Dr. F. J. Allan, Dr. Bushell Anningson, Dr. G. Paddock Bate, Dr. Sidney Barwise, Dr. W. A. Bond, Dr. G. S. Buchanan, Dr. H. Timbrell Bulstrode, Mr. Brudenell Carter, Dr. A. K. Chalmers, Dr. S. Monckton Copeman, F.R.S., Dr. Sidney Coupland (Lord Chancellor's Visitor in Lunacy), Mr. R. Musgrave Craven, Mr. George H. Day, Dr. T. Hugh Dickson, Sir William Dunbar (the Registrar-General), Lieutenant-Colonel R. H. Firth, R.A.M.C., Dr. Wilfred W. E. Fletcher, Dr. F. E. Fremantle, Mr. Kenneth Goadby, Dr. James Kerr, Mr. George King, Mr. R. O. K. Lempfert (representing Dr. W. N. Shaw, F.R.S.), Dr. R. Bruce Low, Lieutenant-Colonel W. Grant Macpherson, C.M.G., R.A.M.C., Dr. J. Middleton Martin, Dr. J. C. McVail, Mr. G. Millson, Dr. A. A. Mussen (representing Dr. E. W. Hope), Dr. Arthur Newsholme (principal medical officer to the Local Government Board), Dr. G. Newman, Dr. James Niven, Colonel J. Lane Notter, Dr. H. Franklin Parsons, Dr. J. F. Payne, Dr. George Reid, Professor W. J. Simpson, Dr. S. Squire Sprigge, Dr. T. H. C. Stevenson, Dr. R. Deane Sweeting, Dr. J. F. J. Sykes, Mr. A. C. Waters, Dr. B. A. Whitelegge, C.B. (H.M. Chief Inspector of Factories), Dr. Dawson Williams, Dr. C. W. F. Young, and Mr. G. Udney Yule. Dr. W. H. Hamer and Mr. Herbert Jones acted as secretaries.

After the loyal toasts had been honoured Sir SHIRLEY MURPHY proposed the health of Dr. Tatham, and in referring to the long connexion of the latter with all that concerns public health, he said: "We might with appropriateness speak of his 16 years' service at Somerset House as the crowning work of his life. Some people would say that they had never heard of Dr. Tatham, but we who are engaged in public health work know more than any others how greatly this country is indebted to him and are therefore delighted to gather together to do him honour. Dr. Farr, one of his predecessors, realised what could be made of the classification of diseases, and his system was so able that it only wanted modification. Dr. Tatham, in modifying it, has brought it into line with modern scientific ideas." Sir Shirley Murphy continued by saying that he would not be exaggerating if he alluded to the joint work of Dr. Tatham and of the Registrar-General as being one of the most active causes that could be found in diminishing the death-rate in this country. The tables that had been published in the reports of the Registrar-General were lessons of the first importance, and those relating to infantile mortality had thrown much light upon the causes of death among young children. When the system of death registration was first proposed it was not intended that the cause of death should be included in the information asked for, and it was only during the passage of the Bill through the House of Lords that this requirement was inserted. Although medical certification of death became compulsory in 1874, Dr. Farr some time previously had approached the Royal Colleges and the Society of Apothecaries with a view to inducing medical men to certify the cause of death voluntarily, so that it was due to the medical profession to say that in 1874 Parliament was only continuing work which had been engaged in by our profession for some time. One of the earliest subjects which attracted the attention of the Society of Medical Officers of Health was the necessity of knowing not only the number of cases of death, but of illnesses also, and Dr. Tatham, while medical officer of health of Manchester, took up the question of notified disease and made arrangements with his colleagues to send him records of disease in their districts, he himself distributing [illegible] he reporters. When Dr. Tatham [illegible] Local Government Board took over and extended this most useful work. During the time that Dr. Tatham had been at Somerset House great changes had taken pla[illegible] not too much to say tha[illegible] best medical knowledge [illegible] After referring to the admirable work which Dr. Tatham had done as chairman of the Statistical Committee of the Cancer Research Fund and as a member of the Inter-Departmental Committee on Physical Deterioration, Sir Shirley Murphy concluded by recalling the fact that their guest's earlier life had been spent as a public health administrator, and pointed out the advantages to the State of being able to obtain recruits for responsible offices from among those who had already shown themselves to be men of parts. In conclusion, Sir Shirley Murphy said that Dr. Tatham had always seemed to be the servant of the public health world, and so ready was he to render help to all those who asked for it that he had made them feel that they had a right to his services and to his assistance.

Sir WILLIAM DUNBAR said that he was glad to be present that evening, not only to show his appreciation of the work of Dr. Tatham, but also to have an opportunity of thanking medical practitioners for the way they had helped his bureau. Sir Shirley Murphy had spoken of the remarkable services of Dr. Tatham, and he was in the fortunate position of being able to confirm the chairman's words as few others could. The seven years he had spent at Somerset House had been made much happier and much pleasanter because it had been his good fortune to be associated with such an able colleague as Dr. Tatham. Indeed, not being himself a statistician, it would have been quite impossible for him to have written the report on the last census without the assistance of Dr. Tatham, of Mr. Noel Humphreys, and of Mr. Waters. Referring to the declining birth-rate, the Registrar-General said that he did not hold the pessimistic views which were attributed to some persons. He certainly did not consider that England was going downhill.

Dr. TATHAM, in response, said that when he realised the import of the presence of so many eminent public health officers, he was impressed with the fact that he never knew that he had so many sympathetic friends. He felt that he did not owe the honour that had been done him to any merits of his own, but rather to the general feeling of comradeship that existed between members of the medical profession and himself. Statistics, he said, must be more or less defective, but his aim had always been to reduce their defects to a minimum. Speaking with an experience of 16 years, he could still express a very high opinion of the value of the certification of the cause of death by medical men, and the replies to the 5000 letters of inquiry which were sent out each year from the General Registry Office with a view of clearing up doubtful statements were distinctly helpful in securing accuracy. When compared with the statistics of foreign countries we had nothing to be ashamed of in those of our own. When appointed Superintendent of Statistics he did not sever his connexion from public health administration without much searching of heart, but his life at Somerset House had been made happier and easier from the loyal support he had received from his colleagues in the medical profession as well as from every member of the staff. He expressed the hope that his successor would be no less fortunate in this respect.

Dr. WHITELEGGE submitted the toast of "The Chairman," who responded in literally two words.

SANITATION IN INDIA.

VIII.[1]—PLAGUE ADMINISTRATION IN THE UNITED PROVINCES IN 1907.

THE year 1907 unfortunately gave a very severe recrudescence of plague after the comparative lull of the previous year, and although the mortality figures did not reach those of 1905, yet the months of March, April, and May witnessed the severest epidemic that has yet visited these provinces, no less than four-fifths of the total mortality of the year *occurring in these three months.* The total number of cases was 257,666, as against 58,489 and 305,737 of the two preceding years. The highest mortality occurred in April, reaching 85,979 cases. The epidemic thus reached its zenith somewhat later than usual, and lingered *somewhat* longer into May and June. Only two districts remained free from the epidemic, 46 out of 48 being more or less severely attacked. The noteworthy features of the epidemic were the above severe mortality in March, April, and May, its later course thus approximating more closely as *regards season to the ordinary Punjab type,* and also the absence of any severe recrudescence in the last three months of the year. With regard to the cause of the latter feature, various hypotheses can be put forward, such as the higher degree of immunity prevailing amongst the rats, consequent on the severity of last season's disease, the same severity having diminished their numbers, or these rodents were unable to find a sufficiency of food in the vicinity of man owing to the famine; again, owing to drought there was in all probability a diminished *prevalence of fleas.* Lastly, the people may have become more sensibly inclined to the prophylactic measures of rat killing, evacuation, and inoculation. The severe and later extending mortality from March to May may be partially explained by the exceptional mildness of the early part of the hot weather. The methods now relied on in dealing with outbreaks are evacuation and inoculation; these will *undoubtedly stop any epidemic if applied rapidly* and efficiently. Disinfection is not now insisted on, as the benefit ensuing is not commensurate with the inconvenience involved, and if used as a substitute for evacuation it is useless, and if in addition to it unnecessary. Where asked for, however, an emulsion of kerosine oil—"Plunas"—is recommended. The chief feature of the plague policy of 1907 has been the attempt to popularise inoculation. Major J. Chaytor White, I.M.S., to ensure this visited the headquarters of most of the districts and lectured on the disease and its prevalence, giving spec[illegible] inoculations, showing how tl[illegible] precautions were taken to [illegible]uring the year 34,168 inoculations were performed; only nine of those inoculated have died from plague. A memorandum [illegible] last August giving many notable instances of [illegible]od. The prejudice against this measure is evidently breaking [illegible]scence of the disease appeared the chief plague officer, Captain R. F. Baird, I.M.S., considers that thousands would have been [illegible] the hundreds who have actually submitt[illegible] Regarding the duration of the protecti[illegible] conferred by inoculation, it certainly lasts through the succeeding year's epidemic, and some degree even remains after an interval of five years. Thus the benefit may remain after several years. The general impression that the protection lasts only from six months to a year and then quickly vanishes is erroneous. Other methods of prevention were also carried out—namely, sanitary inspection and an energetic campaign against rats by traps and poisoned baits, the trap recommended being the "*wonder*" and the poison "the common-sense" poison.

Lastly, we may mention that the Advisory Committee on plague *investigations* in India states that, as the result of a large number of experiments, it has been determined that though plague may be communicated to rats by feeding them on large quantities of infected material, yet that in nature this rarely or never occurs, and *that rats do not* become infected by eating their dead fellows; that plague bacilli [illegible]imentary canal [illegible] pass out in the [illegible]ealthy animals. The flea, however, is merely a passive transmitter of the disease. This well-written report on plague in the United Provinces reflects the highest credit on its author, Captain Baird, the chief plague officer of the Provinces.

VACCINATION.

Burma.

Major O. E. Williams, I.M.S., the Superintendent-General of Vaccination, furnishes the report concerning this measure for Burma for 1907. It would appear that many serious defects which have been brought to notice in previous reports still persist, although the work of the vaccination department in the last three years shows much improvement. The total increase in the number of operations in the province outside Rangoon is only some 11,000 per annum, and the number of *successful vaccinations is still about 30 per 1000 of the* population. The average number of operations performed by each vaccinator was actually less than the average of the last triennium. The difference in results in adjoining districts, where the conditions of work are similar, is striking. Thus there were 3100 a year in the Sagaing district, against only 1200 in Shwebo, and again 1300 operations in both Bassein and Myaungmya, against 550 and *390* respectively for Ma-ubin and Pyapôn. This difference is in part attributed to inefficiency and want of tact on the part of the vaccination staff. Inoculation is still practised freely in rural areas and is reported to have caused outbreaks of small-pox in certain districts. A Bill will shortly be introduced to prohibit inoculation in any rural area, but the operation of this Bill will be at first introduced only where the vaccination department is rendered thoroughly efficient. In order to provide for better supervision the service of native superin*tendents has been reorganised and enlarged from 16 to 44.* Major Entrican, I.M.S., receives well-deserved praise for his work at the vaccination depôt. In Rangoon a serious outbreak of small-pox in 1905–06 resulted in a great excess of work, [illegible] been performed in the triennium [illegible] as compared with 44,000 in the [illegible] notice with much pleasure that *the proposed portable haversack for vaccinators, alluded to* in last year's vaccination note, has been greatly elaborated. The haversack and its contents are the joint result of the labours of the Deputy Sanitary Commissioner and of Captain R. D. Saigol, I.M.S., the best features of whose separate designs this equipment combines.

Bengal.

The seventh triennial report of vaccination in Bengal for the years 1905–06, 1906–07, and 1907–08 is presented by the Sanitary Commissioner for Bengal, Lieutenant-Colonel F. C. Clarkson, I.M.S. *The total number of operations performed* in the province during 1907–08 was 2,058,371, against 2,037,273 in 1906–07 and 2,041,230 in 1905–06. There was an average increase of 279,678 cases. This increase is very satisfactory in view of the adverse circumstance existing, such as scarcity, in many parts of the province. The [illegible] of success was also marked, being 99·22 and 69·97, [illegible] *98·77 and 61·94 of 1903–05, for primary* vaccina[illegible]nd revaccination. The results, indeed, would have been far better still had it not been for the scarcity existing in the province, which made the poor people reluctant to offer their children for vaccination during the year owing to their inability to pay the vaccinators' fees. Several useful reforms have been introduced into the department, tending to better work and *greater efficiency, such as the following:* increase of pay of the subordinate inspecting staff with a view to secure greater efficiency; better education of the inspecting staff and the vaccinators; general introduction of antiseptic vaccination throughout the province (this has been attended with beneficial results, there being a general diminution of sore-arm); general introduction *of the system of grants of rewards to vaccinators; general* introduction of lanoline lymph in the districts comprised within the Bengal and Orissa circles; supply of lymph direct [illegible] adopted for pushing on vaccination in Orissa. Here there had been an *abnormally high mortality from small-pox for years* past, which was discovered to be mainly due to the backward state of vaccination, resulting from the opposition to the operation. Steps have now been taken, due to the intervention of Colonel Clarkson, whereby the civil surgeon is furnished with the tour programme of the district magistrate, so that the subordinate vaccination inspecting officers may appear before him in the mufassal and invoke his aid when necessary. A perusal of this interesting report shows how thoroughly the Sanitary Commission for Bengal is directing the vaccination department.

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[1] Nos. I., II., III., IV., V., VI., and VII. were published in THE LANCET of April 10th (p. 1067) and 24th (p. 1199), May 1st (p. 1269), 15th (p. 1412), and 22nd (p. 1480), June 5th (p. 1630), and 19th (p. 1773) respectively.

With this article we conclude our summary of the reports which have reached us from different Government departments of India during the past few months. The reports mostly deal with the sanitation of India (including Burma) during 1907, and show the mass which has to be done and the valiant way in which the strife to do it is carried on. We wish it were possible to put the results of this excellent work before our readers at a date somewhat nearer the time of its performance, but we cannot review the reports before we get them.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE following are among the principal amounts received at the Mansion House or notified directly to us as having been collected on behalf of the Metropolitan Hospital Sunday Fund up to Tuesday evening last:—

	£	s.	d.
William Herring, Esq.	1000	0	0
St. Michael's, Chester-square	743	0	0
St. Paul's Cathedral	239	0	0
Watts, Watts, and Co.	210	0	0
"Delta"	200	0	0
A. G. P.	200	0	0
St. James's, Piccadilly	200	0	0
Emmanuel, Wimbledon	141	0	0
Aldenham Church, Herts	121	0	0
Bromley Parish Church, with Chapel of Ease	120	0	0
Temple Church	120	0	0
St. Mary's, Stoke Newington	117	0	0
St. Mark's, Reigate	110	0	0
City Temple	107	0	0
Sir W. Vaughan Morgan, Bart.	100	0	0
Heath Harrison, Esq.	100	0	0
Alex. Miller, Esq.	100	0	0
F. G. Debenham, Esq.	100	0	0
W. D. Graham-Menzies, Esq.	100	0	0
Mr. Alderman Howlett	100	0	0
St. Paul's Presbyterian Church, Westbourne-grove	100	0	0
St. Andrew's Presbyterian Church, Hampstead	100	0	0
"Churchwoman"	100	0	0
Annunciation, Chislehurst	92	0	0
Greek Church, Bayswater	87	0	0
St. Augustine's, Highbury	86	0	0
Beckenham Parish Church	85	0	0
St. Ann's, Wandsworth	83	0	0
St. James's, Kidbrook	71	0	0
Holy Trinity, Eltham	68	0	0
St. Magnus the Martyr, London Bridge	67	0	0
[illegible]	64	0	0
[illegible]	61	0	0
[illegible]	61	0	0
Dulwich College Chapel	53	0	0
Messrs. Broad and Co.	52	10	0
Messrs. J. H. Vavasseur and Co.	52	10	0
St. Augustine's, South Kensington	51	0	0
A.B.C.	50	0	0
Mrs. C. E. Layton	50	0	0
"Anon."	50	0	0
"Anon."	50	0	0
Farm street Church	50	0	0
Mrs. Jowers	50	0	0
Mrs. Kenneth Clark	50	0	0
E. P. Gooch, Esq.	50	0	0
Mrs. Gooch	50	0	0
Gray's Inn Chapel	50	0	0
Wellington Barracks Chapel	48	0	0
St. James's, West Hampstead	47	0	0
Christ Church, Lee	46	0	0
Old Malden Parish Church	45	0	0
[illegible]	44	0	0
[illegible] West Norwood	42	0	0
[illegible]	42	0	0
[illegible] Church	41	0	0
[illegible]	40	0	0
[illegible]	40	0	0
[illegible] Church	38	0	0
Crouch Hill Presbyterian Church	37	0	0
St. Mary the Virgin, Hayes	37	0	0
St. John's, Redhill	36	0	0
St. Stephen's, Putney	36	0	0
Greenwich Parish Church	35	0	0
St. John's, Sidcup	35	0	0
St. Peter's, Walton-on-the Hill	35	0	0
St. Paul's, Forest Hill	34	0	0
St. Michael's, Betchworth	33	0	0
Monken Hadley Parish Church	32	0	0
Great Warley Parish Church	30	0	0
St. John's, Upper Holloway	30	0	0
[illegible] Park	29	0	0
[illegible]	29	0	0
[illegible]	28	0	0
[illegible]	28	0	0
St. James's, Garlick Hill	28	0	0
All Saints', Friern Barnet	27	0	0
St. Gabriel's, Pimlico	27	0	0
St. Peter's, Clapham	27	0	0
Bromley, Kent, Wesleyan Church	26	0	0
Christ Church, Enfield	26	0	0
Miss H. C. Gabriel	25	0	0
Russell Walker, Esq.	25	0	0
Otto Beit, Esq.	25	0	0
Mrs. Harold Russell	25	0	0
St. Stephen's, Vincent-square	25	0	0
St. Mary Magdalen, Enfield	25	0	0
St. Anne's, Highgate	25	0	0
St. Mary, Primrose Hill	25	0	0
St. Andrew's, Totteridge	25	0	0
St. Peter's, Dulwich Common	24	0	0
St. James's, Lambeth	24	0	0
Epsom Parish Church	24	0	0
Merton Parish Church	24	0	0
St. Gabriel's, Willesden Green	22	0	0
Kentish Town Parish Church	22	0	0
Paddington Congregational Church	22	0	0
Keston Churches	22	0	0
St. Peter's, Fulham	22	0	0
Northwood Parish Church	22	0	0
Leyton Parish Church	21	0	0
St. Mary, Cuddington	21	0	0
St. John's, Plumstead	21	0	0
Sydenham Baptist Chapel	20	0	0
Mr. and Mrs. Septimus Vaughan Morgan	20	0	0
Miss L. M. Oliverson	20	0	0
Lady Northwick	20	0	0
Bernard Walsh, Esq.	20	0	0
Lady Stewart	20	0	0
St. Peter's, Clerkenwell	20	0	0
Holy Trinity, Dartford	20	0	0

Looking Back.

FROM

THE LANCET, *SATURDAY*, June 25th, 1831.

PHYSIOLOGY OF PARASITIC ANIMALS.

THEIR FREQUENT OCCURRENCE IN MACKEREL.

To the Editor of THE LANCET.

SIR,—As the subject of parasitic animals is one of peculiar interest, and as any observations tending to throw light on their, as yet obscure, physiology, cannot fail of proving useful, I have troubled you with the few following remarks, thinking you might find them of sufficient interest for insertion in your Journal.

I would wish particularly to direct the attention of those who are engaged in the study of this subject, to the extraordinary manner in which the common mackerel is infested with parasitic animals. Having dissected several last summer, and during the present season, at first for a different purpose, I find them so generally infested, that it is rare to meet with one free from the disease. On examining one of these fish, several worms of the *filaria* description, varying in number from five to fifty, will be found within the abdominal wandering between the convolutions of the intestin other viscera, and confined entirely within sac, the surface of which seems well exudation.

A further examination will show, in a most the origin of these worms, and that they from the intestinal cavity, which indeed The peritoneal surface bears no marks of animals, but on several parts of the beneath it, and principally between forming the mesentery and mesopuscles of an opaque, fuscous colour, about that of a pin's head; these or cyst, the smallest containing only with mucus, but in the larger and worm may be distinguished in a are evidently the ova, from which abdomen are produced; nor can generation be more apparent.

[illegible] ive not a similar [illegible] taken in with the [illegible]

Rudolphi, in his great [illegible] having observed in dissect [illegible] the villous coat of the [illegible] resemblance to the head of a variety of tænia, two or three of which were in the alimentary canal, but I believe the intestines have not often been examined with this view.

With respect to the worms found in the mackerel, I may merely mention that their organisation is exceedingly simple; [illegible] they are very tenacious of life, continuing in active motion in water for a day or two after removal from the fish.

I will not trespass further than to observe that though, as I mentioned above, the prevalence of this disease in mackerel is very general, and in some very extensive, I have not witnessed any decided ill effects having arisen from the use of this fish as an article of food, but have reason to think some caution in this respect to be necessary. I have once, only, observed trout to be similarly affected.

I remain your obliged,

18, Salisbury sq, June 9, 1831. H. PEACOCK, Surg.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

Presidential Address.—Annual Dinner.

A MEETING of this society was held on June 18th, Professor RONALD ROSS, the President, being in the chair.

Professor Ross, in the course of his presidential address, said that the failure of nations was often ascribed to many causes, but too seldom it was referred to one which might be a predominant cause—namely, endem[illegible] told them of whole races of a [illegible] archæology of whole civilisations [illegible] tained that the disease factor in such events had probably been more potent than hitherto had been admitted After pleading for a fuller consideration of the scientific history of tropical medicine than was now the case, Professor Ross considered in detail the question of including in the general medical curriculum more instruction in parasitology and in medical entomology, and discussed the defects in sanitary practice, dealing especially with the housing of natives in [illegible] itary organisation.

[illegible] inner of the society was [illegible] London, when the President occupied the chair. Dr. W. Carnegie Brown, who was responsible for the arrangements of the dinner, received many congratulations on the success of his efforts. Colonel Seely, M.P., in the course of an eloquent speech proposing "Success to the Society," described the results of the work of the society as amazing, and instanced as an example the reduction of the ravages of sleeping sickness to one-tenth of what they had been. Other speakers included Sir Alfred Jones, Sir Rubert Boyce, Sir Patrick Manson, Sir Archibald Geikie, Mr. Henry Morris, Count Mörner, and Mr. Ramsay Macdonald, M.P.

EPSOM COLLEGE.

AT the annual general meeting to be held at the office in [illegible] votes, and be declared to have been duly elected:—

Pensionerships.

1. Jane Devlin	6296	3. Emily Barron	5234
2. Catharine Sleeser	6288	4. Joan Mitchell	4567

1. Thomas R B. Corby	7091
2 Oswald H. V. Wrefor	6316
3 Laurence J Hartnett	[illegible]
4. Norman W. Fuller	5837

Public Health.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Sanitary Circumstances and Enteric Fever Prevalence in the County Borough of Rotherham.—Dr. R. D. Sweeting gives a somewhat unfavourable report on the sanitary condition of this important Yorkshire town and shows that its public health administration leaves much to be desired. Rotherham is an industrial and mining town adjoining Sheffield, with a population which is now estimated at 64,000 and is contained in some 12,500 houses. It attained the dignity of a county borough in 1902 after inquiry into its sanitary circumstances had been made by the Local Government Board, and certain improvements had been outlined or promised by the local authority. Some important powers for this purpose were obtained by the Rotherham Corporation Act of 1904, which among other matters enabled the corporation to require conversion of the objectionable privies of the place into water-closets. Large sums have been expended for sewerage purposes in recent years, and arrangements have been made by which Rotherham has been able to draw on the Sheffield water-supply and so to abandon some unsatisfactory sources of water on which the town was formerly dependent In future both Sheffield and Rotherham will share in the large new Derwent scheme of water-supply which is now in course of completion. The medical officer of health, who was formerly only engaged to give occasional services, has since 1906 been appointed to give his whole time to official work. A woman health visitor has been appointed and has done good work, the results of which can be clearly traced in the reduction of infantile mortality in the families visited A satisfactory isolation hospital has been built during the last few years. The total indebtedness of the borough under the Public Health and local Acts is high and amounts to over £750,000. But, notwithstanding this expenditure, part of which has been for sanitary purposes, and the various improvements above referred to, the borough shows evidence of insufficient sanitary administration and supervision in many directions, and remains characterised by excessive mortality from enteric fever when compared with other large English towns. This has averaged 0·19 per 1000 for the 16 years 1892 to 1907, and only in one of these years has been below 0·10 per 1000. The diarrhœa death-rate has been likewise excessive throughout this period The report gives an account of inquiries into the endemic enteric fever of the borough, and Dr. Sweeting points to the conditions which appear specially to have favoured its local prevalence. There is much insanitary house property, consisting largely of back-to-back houses; [illegible] of speci[illegible] ashpit c[illegible] hood of [illegible] pigs an[illegible] insuffici[illegible] and re[illegible] in some [illegible] respect to them are not enforced. Certain streets are "unmade" and in a constantly filthy condition. Dr. Sweeting emphasises the recurrence of enteric fever in these circum[illegible] years; (*b*) in the [illegible] same houses in [illegible] he operation of [illegible] prevalence, and very few instances of multiple cases in families which could be explained on a thesis of personal infection An unusual proportion of recently notified cases has consisted of children of school age, and in regard to some of these the diagnosis appeared open to doubt Medical practitioners are invited to submit blood serum of their patients for examination by the medical officer of health, but few avail themselves of this offer Dr. Sweeting evidently considers that much of the inefficiency which exists in the everyday working of the sanitary administration in Rotherham is to be attributed to the unsatisfactory system by which the inspectors in the public health department are permitted to carry out their duties practically independently of any directions by the medical officers of health, and his report concludes with a series of recommendations on this and other matters.

past, which was discovered to be mainly due to the backward state of vaccination, resulting from the opposition to the operation. Steps have now been taken, due to the intervention of Colonel Clarkson, whereby the civil surgeon is furnished with the tour programme of the district magistrate, so that the subordinate vaccination inspecting officers may appear before him in the *mufassal* and invoke his aid when necessary. A perusal of this interesting report shows how thoroughly the Sanitary Commission for Bengal is dire[illegible] the vaccination department.

With this article we conclude our summary of the re[illegible] which have reached us from [illegible] departments of India during the pa[illegible] mostly deal with the sanitatio[illegible] during 1907, and show the m[illegible] the valiant way in which the [illegible] carried on. We wish it were possible to put the results of this excellent work before our readers at a date somewhat nearer the time of its performance, but we cannot review the reports before we get them.

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[illegible]	239	0	0
[illegible]	210	0	0
[illegible]			
A. G. P.			
Monken Hadley Parish Church	32	0	
Great Warley Parish Church			
St. John's, Upper Holloway			
St. Augustine's, Grove Park	29		
Mitcham Parish Church	29	0	
[illegible]	28		
[illegible]	23	0	
St. [illegible] Hill	28	0	0
[illegible]	27	0	0
[illegible]			
St. Peter's, [illegible]	27		
[illegible], Wesley [illegible]			
[illegible]	25	0	
[illegible]			
[illegible]	25	0	
[illegible]	25	0	0
[illegible]	25	0	
[illegible]			
St. [illegible]	25	0	0
St. Ann's, [illegible]	25	0	0
St. Mary, Primrose Hill	25	0	0
St. Andrew's, Totteridge	25	0	0
St. Peter's, Dulwich Common	24	0	
St. James's, Lambeth	24	0	
Epsom Parish Church	24	0	0
Merton Parish Church	24	0	
St. Gabriel's, Willesden Green	22		
Kentish Town Parish Church	22	0	
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St. Mary, Cuddington	21	0	
St. John's, Plumstead	21	0	0
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Mr. and Mrs. Septimus Vaughan Morgan	20	0	0
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Lady Northwick	20	0	0
Bernard Walsh, Esq.	20	0	0
Lady Stewart	20	0	
St. Peter's, Clerkenwell	20	0	0
Holy Trinity, Dartford	20	0	0

[illegible] communication of the council. The Cambridge health visitors have collected some valuable material with regard to the feeding of infants in relation to epidemic diarrhœa, and this may be summarised as follows. Among 1219 entirely breast-fed children there were two deaths, or 0·16 per cent.; among 361 partly breast-fed there were 13 deaths, or 3·6 per cent.; and among 250 non-breast-fed there were 22 deaths, or 8·8 per cent. The influence of the health visitors in the direction of inducing proper recovery of the mothers after confinement is well brought out by the following figures. In 1906 and 1907 only 32·3 and 32·5 per cent. of the mothers stayed in bed over ten days after confinement, but in 1908, owing to the efforts of the health visitors, 97·1 per cent. stayed in bed beyond this period. A steady decline in the death-rate from pulmonary tuberculosis in Cambridge has been taking place for many years, and it has now been decided to make an attempt to hasten that decline by admitting some advanced cases into the isolation hospital. As bearing upon the question of school-induced diphtheria, it may be noted that 41 cases in 25 households "were possibly the direct result of school assemblage." Enteric fever has shown a marked decrease during the last six years, and the six cases notified in 1908 were all probably imported. Dr. Laird makes but few comments upon the water-supply of Cambridge. He tells us, however, that the town council has taken steps to have daily bacteriological examinations of the water made, and has approached the water company in connexion with the valuable and eminently cautious report made by Dr. Theodore Thomson and Mr. P. W. Crosthwaite to the Local Government Board. The town council is, we are told, now "anxiously awaiting the decision of the water company as to what steps they intend taking in order to eliminate the possibilities of contamination to which the Board's report refers." No reference is made in the interesting report before us to the sanitary condition of any of the Colleges of this great University, and we are wondering whether this absence of comment is to be taken as a tribute to the excellency of the supervision exercised by all the College authorities.

County Borough of Hanley.—Successful attempts have been made in this borough to diminish the amount of black smoke, several of the large manufacturers having taken active steps to minimise the nuisance, with the result that incidentally they have found a saving in expenditure on fuel. The firemen have themselves taken great interest in the methods introduced, which have caused no inconvenience to the manufacturers. There were 165 cases of diphtheria notified during 1908 with only five deaths, and amongst the preventive

in one family during the same week, five persons being attacked. Unfortunately, the precise source of the mischief was not determined. On Saturday, Oct. 3rd, one and a [illegible] pounds of pressed tongue and pig's cheek purchased in [illegible] town were consumed by a family of five persons, and the meat was eaten for dinner on the same day. On [illegible] the father, one daughter, and one son were all taken ill, the younger son suffered but slightly, and the mother escaped entirely. Part of the tongue did not taste good and was given to a dog which was also taken ill. It is of interest [illegible] observe that although dogs are accustomed to eat offal [illegible] various descriptions two of them in the cases recor[illegible] above manifested symptoms of poisoning. Dr. F. B[illegible] Phillips, the medical officer of health, has been [illegible] ing to abolish the fair which is held in Bedford [illegible] weekly. He points out that owing to the large number of children in the town for educational purposes all [illegible] risks of infection should be done away with.

City of Coventry.—The death-rate from pulmonary tuberculosis in this city, with its population of 91,000, has [illegible] steadily declining since 1875, and the [illegible] recently been considering the question of utilising [illegible] existing small-pox hospital as a sanatorium. But [illegible] medical officer of health, Dr. E. H. Snell, and the engineer [illegible] after carefully examining the institution, came to the [illegible] clusion that it was not well adapted for a sanatorium [illegible] as regards its site, its soil, its arrangement, or its [illegible] the city, and subsequently the sanitary committee [illegible] the idea of making use of the institution. On the other hand, it has determined to rent six beds at the Winsley [illegible] near Bath, at the rate of £100 per annum per bed, and [illegible] medical practitioners in the city have been notified of the arrangement. These municipal beds are intended for [illegible] and possibly curable cases of pulmonary or [illegible] culosis, and they [illegible] can afford to go [illegible] idea [illegible] paupers. Each [illegible] with a certificat[illegible] and the medica[illegible] re[illegible] referee. We ar[illegible] be no doubt that [illegible] to glad to be spare[illegible] patient in whon[illegible] no fixed limit to the period of stay in this [illegible] Certainly all experience points to the fact that three [illegible] is usually too short, and it is far better to [illegible] of the matter in the hands of the medical superintendent of the sanatorium. We trust that the after-result statistics [illegible] be so kept and recorded that the people of C[illegible] may be able to appreciate the precise value of the provision made. We believe that the city of Bath, which also contributes to this institution, has arranged to have the figures for each year kept separately so as not to present the after-results in a too optimistic fashion. Dr. Snell has been appointed school medical officer for Coventry, the actual inspection being carried out by an assistant medical officer whose work is facilitated by a nurse. It seems that in the case of Coventry the children are not all examined at the schools at which they attend, but that certain schools have been fixed upon as "centres." With reference to the important subject of treatment, Dr. Snell points out that the agencies available consist of the usual complement of private medical and dental practitioners, while to meet the needs of those who are unable to pay full medical fees there are many medical men whose services are available through the channel of clubs and friendly societies. For those who are too poor to pay anything there are four district medical officers, the Poor-law infirmary, and the Coventry and Warwickshire Hospital. But in spite of these several provisions there are, Dr. Snell adds, certain defects for the treatment of which there are not as yet adequate arrangements. He instances defective vision, defective teeth, and ringworm. As regards the first, he reports that the relatively small number whose defects have been attended to have found their way to the eye department of the local hospital, which institution has represented to the education authority the manner in which the resources of the eye department are being taxed by the attendance of school children requiring prescriptions for spectacles. As to dental treatment, the dental department of the same institution finds that the extractions required are so numerous that general conservative treatment would be impracticable with the present resources. Finally, with respect to ringworm, Dr. Snell thinks that if the x ray treatment is undertaken it should be placed in the hands of some medical practitioner who should use drugs or x rays at his discretion, according to the severity of the case.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8647 births and 3880 deaths were registered during the week ending June 19th. The annual rate of mortality in these towns, which had been equal to 12·3 and 12·6 per 1000 in the two preceding weeks, declined again to 12·3 in the week under notice. During the first eleven weeks of the current quarter the death-rate in these towns averaged 14·4 per 1000; the mean rate in London during the same period did not exceed 13·8. The lowest recorded annual death-rates in these towns last week were 4·5 in East Ham, 5·6 in Leyton, 6·0 in Hornsey, and 6·4 in King's Norton, all being suburban districts; the rates in the other towns ranged upwards, however, to 17·9 in Salford, 18·9 in Norwich, 19·2 in Rochdale, and 25·4 in Great Yarmouth. In London the recorded death-rate last week did not exceed 11·4, a lower rate than in any previous week of this year. The 3880 deaths from all causes in the 76 towns last week showed a decline of 83 from the number in the previous week, and included 364 which were referred to the principal epidemic diseases, against 362 and 393 in the two preceding weeks; of these 364 deaths, 173 resulted from measles, 57 from whooping-cough, 55 from scarlet fever, 35 from diarrhœa, 28 from diphtheria, and 16 from "fever" (principally enteric), but not one from small-pox. The 364 deaths from these epidemic diseases last week were equal to an annual rate of 1·2 per 1000, against 1·1 and 1·2 in the two preceding weeks. No death from any of these epidemic diseases was registered last week in Willesden, Birkenhead, South Shields, Hornsey, or in ten other smaller towns; the annual death-rates therefrom ranged upwards, however, to 2·8 in Liverpool, 4·5 in Salford, 5·0 in Wolverhampton, and 8·4 in Norwich. The fatal cases of measles in the 76 towns, which had been 140 and 186 in the two preceding weeks, declined again last week to 173; the fatal cases of this disease caused annual death-rates last week ranging upwards to 2·2 in Salford and in West Bromwich, 5·0 in Wolverhampton, and 8·4 in Norwich. The 57 deaths from whooping-cough exceeded the number in the previous week by two, and included 24 in London and its suburban districts, five in Manchester and Salford and three in Cardiff. The 55 fatal cases of scarlet fever showed a further increase upon recent weekly numbers, and exceeded the number returned in any previous week of this year; the highest rates from this disease last week were 1·1 in Blackburn, 1·3 in Merthyr Tydfil, 1·5 in Wallasey, and 2·2 in Warrington. The 35 deaths attributed to diarrhœa showed a marked decline from the numbers in recent weeks, as did the 28 deaths from diphtheria; the fatal cases of the latter disease included six in Manchester and Salford, and five in Liverpool. The 16 deaths referred to "fever" were again considerably below the corrected average. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had been 2223 and 2263 at the end of the two preceding weeks, had further increased to 2445 on Saturday last; 468 new cases of this disease were admitted to these hospitals during last week, against 275 and 305 in the two preceding weeks. The registered deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 225, 172, and 152 in the three previous weeks, further declined to 135 in the week under notice, and were 18 below the corrected average number in the corresponding week of the five years 1904–08. The deaths in London directly referred to influenza declined last week to six, against ten and 13 in the two previous weeks. The causes of 35, or 0·9 per cent., of the deaths registered last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. The causes of all the [illegible]

[illegible] the 76 towns included four in [illegible] and three in Gateshead, in [illegible]

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns 1010 births and 554 deaths were registered during the week ending June 19th. The annual rate of mortality in these towns, which had steadily declined in the four preceding weeks from 17·5 to 14·5 per 1000, rose again to 15·5 in the week under notice. During the first eleven weeks of the current quarter the death-rate in these Scotch towns averaged 16·5 per 1000, while in the 76 large English towns the mean death-rate during the same period did not exceed 14·4. The death-rates last week in these Scotch towns ranged from 8·5 and 10·1 in Perth and Greenock to 16·9 in Glasgow and 18·7 in Paisley. The 554 deaths from all causes in the eight towns showed an increase of 36 on the low number returned in the previous week, and included 56 which were referred to the principal epidemic diseases, against numbers declining from 76 to 55 in the four preceding weeks. These 56 deaths were equal to an annual rate of 1·6 per 1000, against rates declining from 2·1 to 1·5 in the four previous weeks; the mean death-rate last week from these principal epidemic diseases in the 76 large English towns did not exceed 1·2 per 1000. Of the 56 deaths from these epidemic diseases last week in the Scotch towns, 18 resulted from whooping-cough, 13 from measles, 13 from diarrhœa, and four each from scarlet fever, diphtheria, and "fever," but not one from small-pox. The fatal cases of whooping-cough in the eight towns, which had declined from 40 to 22 in the four preceding weeks, further declined last week to 18, of which 11 occurred in Glasgow and five in Edinburgh. The 13 deaths from measles, however, showed a marked excess upon recent weekly numbers, and included 10 in Paisley. The 13 deaths attributed to diarrhœa were within two of the number in the previous week; seven occurred in Glasgow and two both in Aberdeen and Paisley. Three of the four deaths from scarlet fever were returned in Glasgow, as were all the four fatal cases of diphtheria. The four deaths referred to "fever," of which three were certified as cerebro-spinal meningitis and one as enteric, were also all recorded in Glasgow. The deaths referred to diseases of the respiratory organs in the eight towns, which had steadily declined in the four preceding weeks from 109 to 80, further declined last week to 73, and corresponded with the number in the corresponding week of last year. Of the deaths in the eight towns last week, 16 resulted from violence, including seven in Glasgow, six in Edinburgh,

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MAY, 1909.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS	Estimated population in the middle of 1909.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas	Cerebro-spinal meningitis.	Total.	Annual rate per 1000 persons living	Small pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,833,938	—	1362	490	1	60	2	21	309	4	2249	6·1	—	241	33	53	138	—	8	—	45	518	1·4	4793	12·9	94
West Districts.																										
Paddington	151,955	—	69	8	—	6	—	—	6	—	89	7·6	—	5	1	—	6	—	—	—	1	13	1·1	139	11·9	75
Kensington	183,683	—	24	10	—	1	—	1	8	—	44	3·1	—	3	—	—	4	—	—	—	2	9	0·6	162	11·5	105
Hammersmith	125,704	—	43	14	—	2	—	2	6	—	67	6·9	—	19	3	2	7	—	—	—	2	33	3·4	135	14·0	142
Fulham	176,406	—	30	19	—	4	—	—	8	—	61	4·5	—	3	2	4	5	—	1	—	3	18	1·3	131	9·7	60
Chelsea	75,249	—	26	14	—	3	—	—	6	—	49	8·5	—	—	1	1	—	—	—	—	—	2	0·3	75	13·0	100
City of Westminster	163,833	—	60	11	—	—	—	—	6	—	77	5·9	—	3	4	3	—	—	—	—	—	10	0·8	185	14·3	106
North Districts.																										
St. Marylebone	126,027	—	32	7	—	1	—	1	6	—	47	4·9	—	7	—	1	1	—	—	—	3	12	1·2	130	13·4	72
Hampstead	94,165	—	15	1	—	2	—	1	4	1	24	3·3	—	5	1	—	2	—	—	—	—	8	1·1	63	8·7	69
St. Pancras	237,422	—	63	16	—	2	—	1	14	—	95	5·2	—	6	—	4	3	—	—	—	—	13	0·7	265	14·6	90
Islington	351,202	—	105	34	—	8	—	2	13	—	162	6·0	—	22	1	3	7	—	2	—	5	40	1·5	345	12·8	106
Stoke Newington	54,423	—	15	4	—	2	—	—	5	—	26	6·2	—	1	—	—	3	—	—	—	—	4	1·0	40	9·6	55
Hackney	237,601	—	57	17	—	2	—	1	28	—	105	5·8	—	2	1	1	7	—	—	—	3	14	0·8	201	11·0	80
Central Districts.																										
Holborn	53,802	—	11	6	—	1	1	—	4	—	23	5·6	—	2	—	—	—	—	—	—	—	2	0·5	51	12·4	70
Finsbury	95,289	—	20	15	—	2	—	—	9	—	46	6·3	—	21	—	1	5	—	—	—	3	30	4·1	164	21·1	134
City of London	18,193	—	5	2	—	—	—	—	—	—	7	5·0	—	1	—	—	—	—	—	—	—	1	0·7	29	20·8	176
East Districts.																										
Shoreditch	114,802	—	20	18	—	3	—	2	12	—	55	6·2	—	24	1	3	6	—	—	—	2	36	4·1	169	19·2	132
Bethnal Green	131,316	—	49	22	—	5	—	1	8	—	85	8·4	—	3	1	2	5	—	1	—	2	14	1·4	147	14·6	108
Stepney	312,525	—	86	37	—	—	—	—	33	—	156	6·5	—	22	2	4	2	—	—	—	1	31	1·3	316	13·2	80
Poplar	171,965	—	54	17	—	2	—	1	14	—	88	6·7	—	25	2	1	13	—	2	—	3	46	3·5	234	17·7	148
South Districts.																										
Southwark	211,125	—	42	21	—	—	1	1	9	—	74	4·6	—	11	2	2	12	—	—	—	—	27	1·7	239	14·8	106
Bermondsey	127,569	—	29	15	—	—	—	1	11	—	56	5·7	—	9	—	1	7	—	—	—	2	19	1·9	165	16·9	110
Lambeth	324,188	—	79	28	—	2	—	—	20	2	131	5·3	—	11	3	7	15	—	1	—	1	38	1·5	319	12·8	104
Battersea	186,036	—	52	24	—	—	—	—	12	—	88	6·2	—	9	1	3	5	—	—	—	1	19	1·3	175	12·3	89
Wandsworth	297,646	—	70	29	—	3	—	2	17	1	122	5·3	—	5	—	3	6	—	1	—	3	18	0·8	234	10·2	55
Camberwell	283,022	—	81	27	—	5	—	1	14	—	128	5·9	—	10	—	1	12	—	—	—	2	25	1·2	268	12·3	110
Deptford	118,583	—	30	13	1	1	—	2	13	—	60	6·6	—	4	2	1	2	—	—	—	3	12	1·3	109	12·0	83
Greenwich	111,014	—	44	20	—	2	—	1	9	—	76	8·9	—	1	2	—	1	—	—	—	—	4	0·5	83	9·7	88
Lewisham	160,749	—	62	25	—	—	—	—	7	—	94	7·6	—	1	—	3	2	—	—	—	1	7	0·6	116	9·4	63
Woolwich	133,374	—	69	17	—	1	—	—	7	—	114	11·1	—	6	3	2	—	—	—	—	2	13	1·3	114	11·1	49
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

and two in Aberdeen. The causes of 19, or 3·2 per cent., of the deaths in the eight towns last week were unspecified or uncertified; in the 76 English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 18·2 and 18·7 per 1000 in the two preceding weeks, declined to 15·7 in the week ending June 19th, and was considerably lower than in any previous week of this year. During the first 11 weeks of the current quarter the death-rate in the city averaged, however, 21·2 per 1000, whereas the mean rate during the same period did not exceed 13·8 in London and 16·3 in Edinburgh. The 120 deaths of Dublin residents from all causes during last week showed a decline of 23 from the number in the previous week, and included ten which were referred to the principal epidemic diseases, against 11 and nine in the two preceding weeks. These ten deaths were equal to an annual rate of 1·3 per 1000, the death-rate from these epidemic diseases in the same week being but 1·0 in London and in Edinburgh. Of the ten deaths from these epidemic diseases in Dublin last week, three resulted from measles, three from whooping-cough, three from diarrhœa, and one from "fever," but not one either from scarlet fever, diphtheria, or small-pox. The fatal cases of whooping-cough showed a further decline, while those of measles and diarrhœa were more numerous than in recent weeks. The 120 deaths included 20 of infants under one year of age and 32 of persons aged upwards of 60 years; both these number showed a decline. One inquest case, but no death from violence, was registered during the week; 43, or 35·8 per cent., of the deaths occurred in public institutions. The causes of all but one of the deaths in the city last week were duly certified by a registered medical practitioner or by a coroner; in London the causes of all but one of the 1060 deaths last week were also duly certified, whereas in Edinburgh the proportion of uncertified causes of death was equal to 5·4 per cent.

VITAL STATISTICS OF LONDON DURING MAY, 1909.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City
of London and in each of [illegible] With
regard to the notified cas[illegible] pears
that the number of pers[illegible] from
one or other of the nine [illegible] was
equal to an annual rate [illegible] tion,
estimated at 4,833,938 persons in the middle of the year; in the three preceding months the rates were 6·4, 5·9, and 5·4 per 1000 respectively. The lowest rates last month were recorded in Kensington, Fulham, St. Marylebone, Hampstead, and Southwark; and the highest rates in Paddington, Chelsea, Bethnal Green, Greenwich, Lewisham, and Woolwich. The prevalence of scarlet fever showed a marked increase last month; among the various metropolitan boroughs
this disease was proportionally [illegible]
Hammersmith, Chelsea, the [illegible]
Green, Greenwich, Lewisham, [illegible]
politan Asylums Hospitals [illegible]
patients at the end of last [illegible]
2143 at the end of the three preceding months; the weekly admissions averaged 318, against 283, 278, and 262 in the three preceding months. Diphtheria was somewhat less prevalent than it had been in the preceding month; the greatest proportional prevalence of this disease was recorded in Chelsea, Finsbury, Shoreditch, Bethnal Green, Greenwich, and Lewisham. There were 920 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 1152, 1103, and 1012 at the end of the three preceding months; the weekly admissions averaged 108, against 133, 121, and 109 in the three preceding months. The prevalence of enteric fever again showed a slight increase over that recorded in the preceding month; this disease was proportionally most prevalent in Paddington, Fulham, Chelsea, Islington, Shoreditch, and Bethnal Green. The number of enteric fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 124, 87, and 57 at the end of the three preceding months, had further declined to 49 at the end of last month; the weekly admissions averaged eight, against nine and seven in the two preceding months. Erysipelas was proportionally most prevalent in Hackney, Finsbury, Shoreditch, Stepney, Bermondsey, and Deptford. The 21 cases of puerperal fever notified during the month included two each in Hammersmith, Islington, Shoreditch, Wandsworth, and Deptford. Of the four cases notified as cerebro-spinal meningitis, two belonged to Lambeth, and one each to Hampstead and Wandsworth.

[illegible]
resided. During the four weeks ending May 29th the deaths of 4793 persons belonging to London were registered, equal to an annual rate of 12·9 per 1000; in the three preceding months the rates were 18·5, 21·4, and 15·0 per 1000. The lowest death-rates last month were 8·7 in Hampstead, 9·4 in Lewisham, 9·6 in Stoke Newington, 9·7 in Fulham and in Greenwich, and 10·2 in Wandsworth; the highest rates were 16·9 in Bermondsey, 17·7 in Poplar, 19·2 in Shoreditch, 20·8 in the City of London, and 21·1 in Finsbury. The 4793 deaths from all causes included 518 which were referred to the principal infectious diseases; of these, 241 resulted from measles, 33 from scarlet fever, 53 from diphtheria, 138 from whooping-cough, eight from enteric fever, and 45 from diarrhœa, but not any from small-pox, from typhus fever, or from ill-defined pyrexia The lowest death-rates from these diseases last month were recorded in Kensington, Chelsea, St. Pancras, Holborn, the City of London, Greenwich, and Lewisham; and the highest rates in Hammersmith, Finsbury, Shoreditch, Poplar, Southwark, and Bermondsey. The 241 fatal cases of measles were 29 in excess of the corrected average number for the
correspondin[illegible] years; the greatest
proportional [illegible] was recorded in
Hammersmit[illegible] ney, Poplar, and
Bermondsey. [illegible] t fever showed a
slight decline from the corrected average number; this disease was proportionally most fatal in Hammersmith, Fulham, the City of Westminster, Poplar, Deptford, Greenwich, and Woolwich. The 53 fatal cases of diphtheria were 19 above the corrected average number; the highest death-rates from this disease were recorded in Hammersmith, Fulham, the City of Westminster, Shoreditch, Lambeth, Battersea, and Lewisham. The 138 deaths from whooping-cough were 25
fewer [illegible] number for the correspond-
ing pe[illegible] s; the greatest propor-
tional [illegible] recorded in Hammer-
smith, Finsbury, Shoreditch, Poplar, Southwark, and Bermondsey. The eight fatal cases of enteric fever showed a marked decrease from the corrected average number; these eight deaths included two in Islington, two in Poplar, and one each in Fulham, Bethnal Green, Lambeth, and Wandsworth. The 45 deaths from diarrhœa were 14 below the corrected average number; this disease was proportionally most fatal in Hammersmith, Fulham, St. Marylebone, Finsbury, Shoreditch, Poplar, and Deptford. In conclusion, it may be stated that the aggregate mortality in London last month from these principal infectious diseases corresponded with the average mortality in the same period of the five preceding years.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 94 per 1000. The lowest rates of infant mortality were recorded in Fulham, Hampstead, Stoke Newington, Holborn, Wandsworth, Lewisham, and Woolwich; and the highest rates in Hammersmith, Finsbury, the City of London, Shoreditch, and Poplar.

DONATIONS AND BEQUESTS.—By the will of the [illegible] eive
late Dr. John Hall [illegible] bout
£1000, and each of [illegible] lent
£3000—viz., Epsom [illegible] the
Fund, the Royal Lo[illegible]
National Hospital for [illegible]
about £35,000 is also [illegible]
endowment for the for[illegible]
nexion with the study of [illegible]
to be called "Hall T[illegible]

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: M. J. Laffan, to the *Implacable;* F. E. Bolton, to Chatham Hospital; and J. Glaister, lent, the *Circe*, for manœuvres.

ROYAL ARMY MEDICAL CORPS.

Captain T. J. Potter, from Belfast, has been appointed for duty in the London District. Major A. G. Thompson has been appointed to the charge of the Brigade Laboratory at Ferozepore. Captain A. H. Safford has been appointed to the charge of the Brigade Laboratory at Fyzabad. Colonel L. E. Anderson, principal medical officer, Fyzabad Brigade, will officiate as principal medical officer of the 8th (Lucknow) Division during the absence on leave of Surgeon-General P. M. Ellis.

Supplementary List.—Robert Magill to be Lieutenant (on probation) (dated June 7th, 1909).

INDIAN MEDICAL SERVICE.

The King has approved of the following promotion in the Indian Medical Service:—To be Colonel: Lieutenant-Colonel Robert Neil Campbell (dated April 2nd, 1909).

The King has also approved of the retirement of Lieutenant-Colonel William St. John Richardson (dated April 22nd, 1909).

TERRITORIAL FORCE.

Royal Army Medical Corps.

1st Highland Field Ambulance: Captain John W. Milne resigns his commission (dated April 30th, 1909).

1st Home Counties Field Ambulance: Sidney Wood Milner to be Lieutenant (dated March 29th, 1909).

Sanitary Service: Captain William Archibald resigns his commission (dated Feb. 28th, 1909).

Lowland Mounted Brigade Field Ambulance: Lieutenant Robert Buchanan Carslaw, Transport Officer, from the Scottish Command, Glasgow Companies, Royal Army Medical Corps (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908).

3rd Lowland Field Ambulance: The undermentioned officers to be Majors: Captain Alexander M. McIntosh (dated April 1st, 1909). Lieutenant David J. Graham, from the Attached to Units other than Medical Units List, to be Lieutenant (dated July 3rd, 1908).

4th Southern General Hospital: The undermentioned are appointed officers whose services will be available on mobilisation (dated Sept. 29th, 1908):—To be Lieutenant-Colonels: Henry Davy, Edward James Domville, Edward Lawrence Fox, and James Elliot Square. To be Majors: John Mortimer, Arthur Charles Roper, Arthur Nathaniel Davis, Walter Ley Woolcombe, Robert Leonard Rutherford, Reginald Horace Lucy, William Cheyne Wilson, and Russell Coombe. To be Captains: John Wallis Gill, Charles Edward Bean, James Henry Dawe, George Frederick Aldous, Reginald Vaughan Solly, Henry Andrew, Ernest George Symes Saunders, William Crosbie Hamilton, Walter Ley Pethybridge, Gilbert James Arnold, George Calrow Sandford, Thomas Horton, Colin Dunrod Lindsey, Brennan Dyball, Charles Llewellyn Lander, George Augustus Roberts, Arthur Edmund Carver, and Ernest George Smith.

For attachment to Units other than Medical Units.—Surgeon-Captain John Graham Martin, from the 2nd Volunteer Battalion, The King's (Liverpool Regiment), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Captain William Watkin Jones, from the 3rd Volunteer Battalion, The Welsh Regiment, to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Major David Smart, from the 1st West Lancashire Field Ambulance, to be Major (dated May 8th, 1909). Surgeon-Captain William Buchan Armstrong, from the 9th (The Dumbartonshire) Battalion, Princess Louise's (Argyll and Sutherland Highlanders), to be Captain, with precedence as from July 11th, 1903 (dated May 20th, 1909). Arthur Edward Horsfall, late Second Lieutenant, 7th Battalion, The Duke of Wellington's (West Riding Regiment), to be Lieutenant (dated Feb. 13th, 1909). Edward Lucius Day Dewdney to be Lieutenant (dated March 17th, 1909). Surgeon-Captain Alexander Paul Swanson, from the 5th (Flintshire) Battalion, The Royal Welsh Fusiliers, to be Captain, with seniority as from May 23rd, 1900 (dated April 27th, 1909).

Correspondence.

"Audi alteram partem."

MALARIA IN INDIA: WHAT CAN THE STATE DO TO PREVENT IT?

To the Editor of THE LANCET.

SIR,—In his letter published in THE LANCET of April 10th Professor Ronald Ross criticises a paper read by one of us at the Bombay Medical Congress last February. We think that some of his remarks may cause those who have not read the original paper and the discussion thereon to believe that we are attempting to obstruct the progress of anti-malarial work in this country, and since such a misinterpretation of our attitude would be detrimental to the interests of that work we beg that you will permit us to lay before your readers a complete, but necessarily much condensed, statement of the most elementary and essential features of the Indian problem. The standpoint from which the subject of the prevention of malaria in India is regarded by Professor Ross and some other critics in England differs entirely from the point of view from which it has to be approached by Indian workers who are aware of the nature and magnitude of the task to be dealt with, and we believe that if by this communication we are able to induce even a few people to survey the subject from the outlook of local knowledge and experience we shall have contributed to the discussion in a more useful manner than if we had undertaken the trivial task of replying in detail to each of the criticisms brought forward by Professor Ross. It is exceedingly easy to enumerate the different measures that research and experiment have proved to be of value in the prevention of malaria. It is exceedingly difficult when we come to actual practice to suggest a rational scheme of anti-malarial sanitation suitable for India.

In the first place we think we are justified in saying that very few realise the magnitude of the task of controlling malaria in India. It is a task vastly greater than any similar one yet attempted or likely in the immediate future to be attempted in any part of the world. As regards British territory alone, the problem relates to an area greater than Germany, France, Spain, Norway, Sweden, England, and Italy together, and to a population which, excluding Russia and Austria-Hungary, nearly equals that of the whole of Europe. A single malarious town in the Panjab (Delhi) has a population more than five times that of Panama, 30 times that of Ismailia, and 50 times that of Klang and Port Swettenham. But Delhi would form but an infinitesimal part of the Indian problem. Again, more than 262,000,000 out of the 294,000,000 inhabitants of India live in villages, of which by far the greater number contain less than 500 inhabitants. Thus it is obvious that any scheme for the mitigation of malaria in India which fails to recognise that the problem is largely one of its mitigation in small villages must be futile. Operations in connexion with towns and municipalities represent at most only a very minor portion of the task.

In a country like India financial considerations absolutely forbid the employment of operations involving lavish expenditure. It is useless to cite the operations at Panama as an example to be followed in this country, and no one would do so who realised, for example, that to deal with malaria among the small population of Panama required an annual expenditure greater than the total yearly income of the 138 largest towns in the Panjab. In Panama the vast resources of a rich nation were concentrated for a definite and important object on a small area. What we have to do in India is to find out the method which can be applied so as to confer the greatest benefit upon the greatest number. The recommendation that we should utilise simultaneously *all* methods, of anti-malarial prophylaxis, though apparently unanswerable, is in reality begging the question; it assumes that, as in the case of Panama, we are in the position to afford complete operations—that our task is a limited one well within our means. Only complete ignorance of the conditions could lead one to regard the Indian problem as being capable of such an easy solution. On the most hopeful view it can be possible for the State only very slowly to improve matters It is doubtful if more than a very few yet realise what they mean when they speak lightly of reducing (or abolishing) malaria in India. We are in the position of a man with 6*d.* who has to choose between a pair of boots and a loaf He has to put aside the thought of the boots and maintain his life for the present with the loaf. We have dealt with this point at some length because we think it very important that the issue should be clearly realised.

This brings us to a consideration of what the State can be expected to do. [illegible] examples of anti- [illegible] it is possible to r [illegible] will eventually be applied [illegible] ? Should it restrict itself [illegible] in the large cities, or in the [illegible] or only in cantonments, or [illegible] reduce mortality in the villages, which we have seen are the localities in which the vast majority of the population of India live? The answer to these questions is of the first importance. Clearly demonstrations of success in anti-larval operations cease to be of value when their cost is such as to prohibit their general employment in India.

When mosquito destruction was first advocated as a means of getting rid of malaria it was thought that in nearly all malarious places the task would be exceedingly easy and very cheap. It was obvious that if it could be shown that anopheles mosquitoes and malaria can be reduced by the efforts of a few labourers banded together to form a body styled a "mosquito brigade" this would be the only right method of reducing the disease; it would be a method capable of adoption in every malarious town and village in India. It is well known that in 1901 experiments with this method were begun by the Royal *Society's Commissioners* at Mian Mir. This place consists essentially of a group of villages very similar to those met with throughout the Punjab and in other parts of India, but it possesses advantages over other groups of villages in that it has a piped water-supply, a surface drainage system, and good roads [illegible] For these and other [illegible] that if in any part of [illegible] would be easy it would [illegible] ires as can be accomplished by "mosquito brigades" were carried out with great thoroughness from 1901 to 1903, but they did not affect appreciably either the numbers of anopheles mosquitoes or the prevalence of malaria. In 1904 the military authorities decided to continue the experiments on a much larger scale; in addition to extending considerably the work done by mosquito brigades they carried out further engineering works of surface drainage and completely abolished irrigation in the cantonment. These later efforts, like the earlier ones, have not resulted in an appreciable diminution in the prevalence of anopheles or malaria in the cantonment, and in the autumn of 1908 it was visited by an epidemic of the disease probably more severe than any previously experienced.

It is true certain demonstrations outside India have been held to establish the value of anti-larval *operations*, but they fail to help in the present problem because: (*a*) the areas dealt with have been, comparatively speaking, very small; and (*b*) the cost, in some cases several pounds *sterling per head of the population*, has been very great. The following figures illustrate these two points:—

Place	Population	Cost per head	Remarks
Ismailia.	6000–7000	6 5 frs initial. 2-3 frs. annual	Exclusive of quinine
Klang and Port Swettenham.	4000	£2 10s. initial	Exclusive of quinine
Panama	40,000	£10 per head annually.	Inclusive medical and sanitary expenditure

(*c*) In *every instance* quinine prophylaxis was very actively pushed and it is at least as likely that the reported reduction in malaria was due to this method as to the anti-mosquito operations At Ismailia, for instance, in 1903 and 1904 the cost of the quinine used prophylactically was more than 2 francs per head of the population durin produces the same effects with quinine alc (*d*) The only country where the conditi those of India is Italy; and in Italy ar have been abandoned in favour of measur has shown to be more effective.

We see, then, that anti-larval oper not easy of assured success It may, in fac established that for Indian villages and for rural condition generally anti-larval operations are not feasible. Even the small towns present much more serious problems than is [illegible] are only large villages [illegible] them could hope ever [illegible] tions or even expend a tithe of the amount required to produce any effects by operations of this kind. The majority can only imperfectly meet the expenditure on the simplest sanitary requirements.

Unless the State, then, is prepared to leave rural India altogether out of account and to risk what will be nothing more or less than an enormous experiment in regard to small towns it must turn its attention and exercise its chief expenditure in systematically endeavouring to extend the benefits of quinine Among many other advantages this system is the only one which cannot possibly be shown to be valueless by future advances in knowledge; more-moreover, it is cheap, is understood by the people, and is so willingly accepted by them that even in the present state of education they are ready to pay for it; it is the method which after much trial and experiment has been adopted on a national scale for the prevention of malaria in Italy, and *is the one which is regarded by Dr. Koch and other eminent* German scientists as far preferable to any other: it has already been tried on a small scale with success in India, and only needs to be taken up seriously and enthusiastically *to become a great power for the mitigation of malaria* in this country. What is essential, however, is that attention should not be diverted from the manifest advantages of this method by the many recommendations which are constantly being received in India to the effect that the destruction of mosquitoes by drainage operations should be the chief feature of malarial prophylaxis One can imagine, for example, how great would be the benefit to the people of Bengal if the money which it has been proposed to expend on the drainage schemes enumerated in the report of a recent drainage committee were spent upon the extension of quinine administration and the thorough organisation of a system for this purpose. On the most favourable view it is extremely doubtful whether any mitigation of malaria would result from the drainage schemes, but on any view it could not be doubted that great benefit would accrue from the expenditure of so much money on the organisation and carrying out of a proper system of quinine administration. At the present time quinine prophylaxis when employed in India is carried out in a slipshod and haphazard manner because it is felt that chief attention should be directed to anti-larval measures One has only to read reports upon cantonments by medical officers in India to realise how the insistence upon anti-larval sanitation has delayed the use of more suitable methods

One other feature in which the problem for India demands special [illegible] is our knowledge of [illegible] very limited, but we [illegible] ditions under which r [illegible] ent in ruling large sums to be immediately and blindly expended upon anti-mosquito work. It is, in fact, not true to represent the case so [illegible] is necessary [illegible] We are [illegible] rs, there are wide tracts of country where the disease, though present, is not markedly interfering with the prosperity and natural increase of the population. In such areas special action for the reduction of the prevalence of malaria is unnecessary—the disease is sufficiently dealt with by general arrangements such as are taken for the mitigation of other diseases. Secondly, there are areas where malaria is constantly present to a moderately intense degree; and thirdly, there are areas in which the disease can only be described as decimating the people and converting once populous and prosperous districts into scantily peopled and decayed ones

It is upon such areas as the last—where malaria is present in intensified and epidemic form and is acting as a pestilence that attention should be first concentrated. Such epidemics have causes which can be traced, and even at present it is known that the factor of anopheles mosquitoes is only one of many that are concerned in bringing about the epidemic result In the great industrial centres, for example, we have malarial epidemics whose immediate cause is the *immigration, under special conditions,* of non-immune people from healthy districts to foci of malaria started by this very process of immigration.[1] We need not here describe the events and conditions that are concerned in causing epidemics of malaria in such centres, nor need we mention other examples in which recent work has revealed what are the really important factors concerned. It suffices if we emphasise the fact that the prevalence of anopheles, though always important, is by *no means in every case* the most important factor to be considered.

It is not without due reason that Professor Celli lays such stress on legislative amendment of agrarian laws, and so on, that he emphasises the fact that in the Roman Campagna malaria is not a result of want of drainage, and that it is one of the diseases to be surveyed from the outlook which will give the widest possible standpoint if we ever hope to control it. No cut-and-dried scheme that is not doomed to enormous waste of expenditure can be organised at once. Each district of India is probably a problem *requiring study in itself,* study whose object is not in one sense scientific research but simply the getting of information absolutely necessary to action. We must know: (1) What parts of India are especially dangerous as foci disseminating malaria and what parts are likely to become so? (2) In what parts of India should an attack upon the disease be begun at once—that is, in what parts is the disease most seriously interfering with increase of population and general prosperity? (3) In what parts of India is it unnecessary to take special action at present? (4) What are the conditions at any place or in any tract it is desired to take in hand? For in the absence of accurate knowledge one cannot possibly decide upon the feasibility or suitability of proposed measures.

All that one can say at present is that the first step should be some sort of organisation for first inquiring into and then dealing with malaria, for bringing to notice at once the occurrence of epidemics or even for foretelling their advent, so that by action taken on such intelligence their effects may be minimised. There should exist also a definite system or code of rules for dealing with such outbreaks by the best methods. Such a code can be arrived at only by gradual experience. To attack a temporary epidemic due to temporary causes by cut-and-dried operations, to allow a focus of malaria to form as has happened recently at Bombay, and then to attempt to control it, would not be one of the blunders of such an organisation.

In conclusion, then, we have on the one hand the advice to start here, there, and everywhere in India anti-malarial campaigns essentially anti-larval in character, on the type of the operation at Panama, &c. We can only say that such advice appears to us only possible of contemplation with a superficial knowledge of the Indian problem. We, indeed, would give advice fundamentally different. We believe the Government would be wrong to adopt methods so diametrically different from those now carried on with such excellent results by the Italian Society, who in practical malarial sanitation (especially in that dealing with agrarian conditions) and in national malarial prophylaxis are far in advance of present English ideas. But for so long as anti-larval operations with their comparatively enormous expense and uncertain results form, as it were, the necessary and conventional basis for every endeavour to control malaria under every condition, for as long, we believe, will the real attack upon malaria in India be delayed. We know that the expense of anti-mosquito operations is very great and that for application to rural areas they are utterly unsuitable. At present expenditure upon such operations is not justifiable except on the view that further experiments are desirable and that the expenditure is for the purpose of these experiments. In the meantime it is desirable that attention should be concentrated upon quinine prophylaxis, in accordance with methods that experience has already shown in Italy to be best adapted for the prevention and mitigation of malaria on a national scale.

Holding such views, it is not surprising that we look upon the prominence given by Professor Ross to the necessity of anti-larval operations for India and his insistence on the simplicity of the task as prejudicial to progress, and we cannot see that by bringing forward what are to us the facts in regard to Mian Mir we are hindering advance. Our view is that by stating the truth regarding such operations we are combating to some extent the great misfortune that India has for some years laboured under from the continual advertisement of anti-larval measures as the only *right method* of getting rid of malaria. Mian Mir is to us not a test case as to whether successful anti-larval measures are *possible,* but one relating to the feasibility, even the relative advisability, of anti-larval operations as the most important line of attacking India. It is apart from useful argument to insist that Mian Mir is still inadequately drained. It is, of course, obvious that the anopheles now apparently present in undiminished numbers bred somewhere, and very likely that they bred in sheets of water during and after heavy rain. The fact that a very energetic campaign failed to control such conditions indicates an amount of difficulty in dealing with malaria under such conditions at present realised by few. Yet these conditions are, so far as we can see, not more difficult than will be met with in almost every place where malaria is severe in India. It will serve no useful purpose to gloss over these difficulties and to create the impression that the problem of malarial prophylaxis in India is a simple and easy one when it is in reality complex and difficult.—We are, Sir, yours faithfully,

S. P. JAMES, M.D. Lond., D.P.H.,
Major, I.M.S.
S. R. CHRISTOPHERS, M.B. Vict.,
Captain, I.M.S.
Simla, India, May 26th, 1909.

THE LONDON COUNTY COUNCIL AND THE MEDICAL TREATMENT OF LONDON SCHOOL CHILDREN.

To the Editor of THE LANCET.

SIR,—I think it is to be regretted that public attention should have been called to the recent decision of Great Ormond-street Children's Hospital with regard to the treatment of London County Council school children. It is the result of precipitate action on the part of the committee of management without previous consultation with the medical committee. I have drawn the attention of the medical committee to the matter, and I have no doubt that the committee of management, who have always shown themselves exceptionally responsive to the suggestions and desires of the medical staff, will reconsider the question at the earliest opportunity. I am, Sir, yours faithfully,

J. HERBERT PARSONS,
Ophthalmic Surgeon to the Hospital.
Wimpole-street, W., June 18th, 1909.

COLOUR VISION IN THE MERCANTILE MARINE.

To the Editor of THE LANCET.

SIR,—The long and interesting letter of Mr. C. Devereux Marshall in this week's issue of THE LANCET regarding the colour vision in the Mercantile Marine leads me to mention a case which came under my notice about two years ago. A young man, about 26 years of age, came to my out-patient department complaining of defective vision. Examination revealed hypermetropia of *nine* diopters. Now this man had been at sea on the big Atlantic liners for some years and had acted as look-out on most of the voyages. He complained that it was almost impossible for him after being some time on watch to discern anything distinctly at any distance beyond a ship or two's length away, and at night he was almost blind as far as look-out work went. I provided him with correct glasses, at the same time warning him of the risks he ran, to say nothing of that to the ship and passengers, as long as he continued to go to sea as a sailor. I told him there was nothing to prevent him acting as a fireman. However, he turned up again a few months ago saying that he had been at sea and had been compelled to act in the same capacities as before, but had decided at last to give "sailoring" up now altogether. What sort of a visual examination can have been held to have passed such a man *twice?* It must be, as Mr. Marshall puts it, that "candidates are ...... at the mercy of a board who seem" not possessed of "knowledge of the subject on which hey are asked to adjudicate."

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[1] See a paper on The Human Factor, by S. R. Christophers and C. A. Bentley in the Transactions of the Bombay Medical Congress.

I am, yours faithfully,
A. A. BRADBURNE.
Southport, June 19th, 1909.

TROPICAL ADENITIS AND PLAGUE.

To the Editor of THE LANCET.

SIR,—With reference to your annotation in THE LANCET f June 12th the following note bearing on the subject, hich was personally investigated, may be of interest.

In January, 1906, owing to a couple of cases of bubonic lague having occurred amongst the Lascars of a transport hich had conveyed a European regiment from the West ndies to Calcutta, the entire regiment was segregated on he maidan outside Fort William, and the men submitted o a thorough medical examination. Several suspicious cases f adenitis with slight pyrexia and malaise were detected nd placed in an isolation hospital. These cases were added o daily for about a week, and although the specific bacilli ould not be recovered, there was no doubt at the time that here was some relationship between the plague-infected ship nd the cases of adenitis, which were diagnosed and treated s pestis minor. With a small dose of not very malignant lague bacilli the European develops adenitis or pestis inor, a not uncommon affection amongst laboratory workers the tropical areas where plague is met with.

I am, Sir, yours faithfully,
E. B. KNOX, M.D. Dub., Captain, R.A.M.C.
Putney, S.W., June 19th, 1909.

HAMPSTEAD GENERAL HOSPITAL: THE MALCOLM MEMORIAL.

To the Editor of THE LANCET.

SIR,—At a meeting of the council held on Feb. 23rd last, was decided to raise a fund amongst the friends and dmirers of the late Mr. William Forrest Malcolm for the urpose of providing a suitable tribute to his memory. He as one of the founders of th
osition of treasurer from its
per
ficer
stitution in its present state of
With
that
orm of a portrait, to be paint
nd placed in the board-room of the hospital.

The council has decided that subscriptions shall be limited the sum of one guinea each, so that all may have an pportunity of showing their appreciation of Mr. Malcolm, hose loss is so deeply felt by all who knew him, and whose enerosity and goodness must be admired by many who may ot have been personally acquainted with him. To defray e cost of the painting the sum of 100 guineas will be quired. Will those desiring to contribute, kindly send eir subscription to the secretary at the hospital at their rly convenience.

We remain, yours faithfully,
EDMD. K. BLYTH,
ERNEST COLLINS,
CHAS. JOHNSTON,
R. A. OWTHWAITE
Special Committee, Malcolm Memorial
June 11th, 1909.

SALFORD GUARDIANS AND FEEBLE-MINDED IRLS AND WOMEN.—The Salford Guardians are about to ake a good move as regards the care of the feeble-minded irls and women who are now in their care or who may be so the future. One of the lady members recently moved that committee be appointed to consider the advisability of proiding a home for them apart from the workhouse. The uardians have on their hands some buildings not in use hich could be put in order and these poor creatures ccommodated and an attempt made to draw out what ental powers they possess. It would, of course, be ecessary to have a teacher trained in the care of the feebleinded, but the mover of the resolution did not think the ost would be great. The disadvantage of the scheme, as ompared with that carried out at Sandal Bridge, is, of ourse, that the inmates will be able to leave when they like, ut the hope is that they may be induced to stay in a home here they could be taught housekeeping, laundry work, ooking, and so on. The motion was carried unanimously.

PLAGUE AND CHOLERA IN RUSSIA, SIBERIA, AND THE NEAR EAST.

(FROM THE BRITISH DELEGATE TO THE CONSTANTINOPLE BOARD OF HEALTH.)

Plague in Jeddah.

THE outbreak of plague in Jeddah has come to an end with the approach of the hot season. The statistics of the epidemic were brought down to the week ending April 11th in my last letter on the subject.[1] In the week ending April 18th only one case and one death occurred, and in that ending April 25th there were reported one fresh case and two deaths. The present revival of the disease lasted from Dec. 12th, 1908, to April 21st, 1909; in that period 178 cases, with 160 deaths, have been recorded. Of the 178 cases only 28 were seen during life, the remaining 150 came to the knowledge of the authorities only after death. Only ten of the cases were removed to hospital; of these six are said to have recovered, thanks to the treatment by serum; six other cases in the town were submitted to the same treatment, and of these four recovered. It is noted that the large majority of cases were bubonic in character; only four pneumonic cases were seen (two in life and two after death). In the bubonic cases the buboes were most often situated in the groin.

Yanbo appears to have escaped infection on this occasion. It is interesting, however, to note that an imported case of plague occurred at the lazaret of El Tor, in a member of the crew of a ship coming from Yanbo. This ship, the s.s. *Marieut*, arrived at Tor on March 1st; the patient was a stoker; he was the only case of plague seen this season in the Tor lazaret. The ship had
a half previously; had take
(among whom no cases of
where the ship had been disinfected and had its rats destroyed by a Clayton apparatus; had then proceeded to Yanbo, but finding no pilgrims there returned to Tor, where, as just stated, the case of plague occurred. It would seem that the ship had in all probability become infected when at Jeddah and that the infection had remained latent during a month and half. If so, the incident is in every way analogous with the occurrence of cases of plague in the Thames in the autumn of 1896 on board a ship from Indian ports; and both incidents tend to show that mere quarantine, unless it be prolonged over an impossibly long period, can never suffice to prevent the importation of plague from one country to another.

Plague in Bagdad.

It will be recalled that the outbreak of plague in Bagdad appeared to have come to an end in February, and that the town was declared "clean" on Feb 23rd. But on May 5th two fresh cases were discovered; of these one occurred in the Abu Sefein quarter of the town, and the other in the Sedria quarter. In both districts (which are situated near the northern end of the town) plague was prevalent during the outbreak of last year. On May 12th three fresh cases were reported, and on the 23rd one. Since that date no further cases have been seen, and the measures which had been once more put in force upon departures from Bagdad by river and road were again suppressed on June 6th.

Plague in Bahrein and the Persian Gulf.

Outbreaks of plague have occurred more than once in
recent years in the Bahrein Islands. This group of islands is
situated on the south-western shores of the Persian Gulf and
is under British protection. The reappearance of the disease
there was reported on May 12th, when 3 cases and 2 deaths
had occurred. Down to May 15th there had been 6 cases
with 4 deaths. In the week ending May 22nd as many as
18 deaths from plague were recorded, but in that ending
May 28th (*sic*) the number of deaths fell to 3. The health of
the other Gulf ports has remained good. The only measures
ports against Bahrein have been a medical
tion of the circular concerning
plague have recently occurred
in other ports of the Persian Gulf. On April 14th a case was
landed at Muscat from the ss. *Africa* and died on the 16th.

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[1] THE LANCET, May 1st, p. 1279.

Towards the end of the same month the ss. *Dumra* arrived at Bushire (on the Persian shore) from Basra; during the voyage three deaths from suspected plague occurred on board and another case (a sailor) was landed in the Bushire lazaret. This was a case of pneumonic plague, and the diagnosis is said to have been confirmed bacteriologically. At present only telegraphic information in regard to these occurrences has been received here.

Cholera in Russia.

The records of the cholera epidemic in St. Petersburg were brought down in my last letter to the week ending March 21st (April 3rd). Since then the returns have been as follows:—

	Cases.	Deaths.
Between March 21st (April 3rd) and March 28th (April 10th)	13	2
,, ,, 29th (,, 11th) ,, April 4th (,, 17th)	29	3
,, April 5th (,, 18th) ,, ,, 11th (,, 24th)	19	1
,, ,, 12th (,, 25th) ,, ,, 18th (May 1st)	8	2
,, ,, 19th (May 2nd) ,, ,, 25th (,, 8th)	12	6
,, ,, 26th (,, 9th) ,, May 2nd (,, 15th)	10	2
,, *May 3rd* (,, *16th*) ,, ,, *9th* (,, *22nd*)	*4*	1

Finally, on May 14th (27th), no fresh cases having occurred in St. Petersburg, the Russian authorities declared the city merely "threatened" instead of "infected" with cholera. It should be added that all the cases and deaths mentioned above were confined to the capital. The following revised figures have now been issued by the Russian authorities for the weekly records of the epidemic in St. Petersburg since its beginning in August last; the figures do not in all instances quite agree with those published week by week:—

Week ending	Cases.	Deaths.
August 30th	197	53
Sept. 6th	1805	567
,, 13th	2568	1113
,, 20th	1535	703
,, 27th	794	381
Oct. 4th	418	193
,, 11th	257	111
,, 18th	126	71
,, 25th	103	44
Nov. 1st	105	34
,, 8th	70	26
,, 15th	112	32
,, 22nd	154	45
,, 29th	171	66
Dec. 6th	120	40
,, 13th	107	38
,, 20th	121	36
,, 27th	96	40
Jan. 3rd	178	46
Jan. 10th	273	114
,, 17th	193	52
,, 24th	160	42
,, 31st	141	40
Feb. 7th	109	39
,, 14th	88	25
,, 21st	68	27
,, 28th	46	11
March 7th	42	6
,, 14th	25	5
,, 21st	10	3
,, 28th	13	2
April 4th	29	3
,, 11th	19	1
,, 18th	8	2
,, 25th	12	6
May 2nd	10	2
,, 9th	4	1

The total number of cases recorded in St. Petersburg has, therefore, been 10,287, and that of deaths 4020. The dates in the above table are all according to the Old Style.

In the letter already referred to, I drew attention to the question of the water-supply and drainage of the Russian capital; both these questions are now being seriously taken in hand by the Russian Government. A special Commission has been appointed by the Minister of the Interior to inquire into, and to report upon, the whole matter. The terms of reference to the Commission include five main headings; these are (briefly put) as follows: (*a*) system of sewers and disposal of dry refuse; (*b*) house drainage; (*c*) the water-supply of the city; (*d*) the financial aspects of the new schemes; and (*e*) laws and by-laws respecting drainage and water-supply.

Plague and the "Tarabagan Disease."

It has been known for many years past that in Eastern Siberia and Mongolia the marmot, or "*tarabagan*," suffers frequently from a fatal disease, which may be transmitted to man and produce in him symptoms indistinguishable from those of bubonic or pneumonic plague. From time to time I have published in THE LANCET abstracts of the principal communications to Russian medical journals on this subject, and have pointed out that, while clinically the "*tarabagan* disease" in man closely resembles plague, bacteriological proof that the two diseases are identical has hitherto been wanting. An article by Dr. B. A. Barykin,[2] dealing with this particular aspect of the question, is therefore of special interest. Dr. Barykin in the autumn of 1906 and that of 1907 made expeditions to certain districts known to be infected with the "*tarabagan* disease." He records the following facts (the details closely resemble those of outbreaks previously reported). From the spring to the autumn of 1906 there was a high mortality among the marmots round the *settlement of Abogaitui*, situated 30 versts from the station of "Manchuria." The inhabitants were fully aware of the danger and avoided all contact with the sick animals—with one exception. This was a Cossack, who was in indifferent health and particularly fancied the delicate flesh of the *tarabagan*. On Sept. 23rd he fell ill with the symptoms of plague and died on the 27th. The disease spread from him to others; in the end eight persons fell ill and all died; in all the symptoms were those of pneumonic plague. Necropsies were made in two cases; the organs were found to contain bacilli indistinguishable from those of plague; mice were injected with juice from the spleen of one, and died in 26 hours with all the appearances of having died from injections of Yersin's plague bacillus.

In the autumn of 1907 a large number of marmots were killed or caught by Dr. Barykin's party, and examined for the presence of disease. In one of these animals, which showed no external sign of being ill save a certain degree of general malnutrition, the spleen was found to be swollen and congested, and it contained large numbers of bacilli which presented all the morphological and cultural characteristics of plague bacilli. Later preparations of these organisms were shown to Professor Zabolotny and Professor Savtchenko, both of whom regarded them as in all probability true plague bacilli. A fortnight after the discovery of this infected animal the following incidents occurred in a district some 20 or 30 versts away. A Cossack family had settled in a lonely and isolated spot where marmots abounded. The men amused themselves with hunting the marmots, and one day killed one that showed clear signs of illness. In spite of warnings from the older men they skinned the animal; the body was recognised as unfit for food and was given to a girl, aged 13 years, to take back to the fields and throw away. This girl dragged the body (weighing about 15 pounds, it is said) after her through the grass, and returned to the settlement along the same path. She was barefooted. On the next day she fell ill, a bubo appeared in the left groin, and there were all the symptoms of an attack of plague; she died some days later. From the bubo, from a pustule on one finger, and from the spleen bacilli indistinguishable from those of plague were isolated; injected into mice they caused death in 18 hours, with symptoms of septicæmia. It was impossible to examine the body or skin of the animal. The men appear to have escaped infection. In the same autumn a guard at the station of Khara-Nor, and a Cossack woman at that of Sharasun both died from a disease resembling bubonic plague; the former had hunted marmots, the latter had skinned the dead animals. Sick marmots had been seen in the neighbourhood in both instances. In the case of the guard the organs were found to contain bacilli which microscopically were identical with those of plague. As a result of inquiries elsewhere it was ascertained that in the district round one station only—that of Tsagan-Oluevsk—ten outbreaks of this plague-like disease in man had occurred in the preceding nine years. None of them were very severe, and the people themselves took precautions to prevent its spread.

Constantinople, June 10th.

THE SCHEME FOR ENGLISH AID TOWARDS MEDICAL EDUCATION IN CHINA.

(FROM OUR SPECIAL CORRESPONDENT.)

THE reports having arrived of the meeting in the Mansion House of the China Emergency Committee, to which Sir Robert Hart lent his aid, it might be advisable to comment on the scheme from the local point of view. Those of us who are on the spot and are interested in the cause of medical education on Western lines among the Chinese, find our chief difficulty lies in the stolid indifference of the people and the greater part of the official class (roughly about eight-tenths of the latter) to the benefits of modern medicine and surgery. The foreign hospitals find most of their work lies in the treatment of surgical ailments. Among the better classes medical treatment is comparatively rarely sought, and it must be admitted that the empiric methods of the native doctors are often successful in the end. An official once told me that *his chief objection to foreign* doctors lay in the fact that their dietetic ideas were so totally different from what he had been all his life accustomed to, and that he found the regimen of milk, eggs, and cod-liver oil, which he had been ordered, nauseated him. At the Tung Wa Hospital at Hong-Kong (under Government auspices), where the patient has the option of choosing whether he will be treated on *foreign or native lines, it has* been found that, according to the returns, of 2687 who were treated in one year, 1422 elected to place themselves under foreign treatment, while 1265 chose the Chinese methods. There was a total of 884 deaths, of which 400 occurred under European treatment and 484 on the native side, but the figures lead to no deductions worth anything. The public *mortality in China is far too high for us to* stand idly aside and not use every endeavour to impart the benefits which we know Western science can bring, and the all-important consideration is as to how best to do this. And there can be little doubt that the main item must be the supply of teachers to *existing institutions*—men who can face the task of studying the language and of getting a sufficient *grasp of it to talk fluently and come into* personal contact with their students. A point of difficulty is that foreign education in China is in the hands of medical missionaries, and there are many better-class Chinese who fight shy of sending their sons to religious institutions. The native medical "profession" is not greatly respected—long ages of charlatanism have relegated it to a place analogous to that occupied in *England in the time* of the barber-surgeons, and it is not looked upon as an honourable calling to any extent. But China is changing rapidly; a few years ago a military career was looked down upon by civilian officials, whereas at present cadets are being sent from good families to become army officers. There is therefore no reason why a number of good examples of native scientific medical men should not open the eyes of the officials and people to the advantages obtainable. The Oriental makes a first-class student; he is logical, persevering, intelligent, and memorises well. Practical anatomy *is not as yet legal* in China, but teaching from models has, so far, been found satisfactory. A number of students, taught by Dr. W. W. Myers of Formosa, were recently sent from there to Shanghai to be examined. As there happened to be material available for dissection in the public mortuary, they were examined on it, and although it was the first acquaintance they had had with human dis*sections they all passed the tests most satisfactorily.*

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[2] Russkii Vratch, April 18th, 1909.

The biggest foreign medical college is at Peking. There are also medical schools at Tientsin, Hankow, Hangchow, and Shanghai, but they a[illegible] through a whole course by [illegible] in addition to teaching, h[illegible] duties to attend to. It would therefore be advisable *for the China Emergency Committee to obtain particulars* from already established colleges as to what subjects are most urgently in need of lecturers, and having found these, to concentrate its efforts in obtaining professional men willing to sign an agreement for a sufficiently long time to repay their enforced language study period of at least one year after arrival. An experience of a few years in these *institutions will be all to the good* when the *time* comes for expansion in opening medical colleges in which, as far as the Chinese are concerned, there is no religious influence. In Peking, at any rate, the medical teaching missionaries have been broad-minded enough to forego the imposition of any religious tests on their students. Medical education is not a thing of creeds and sects, and while China is under an incalculable debt to missionary enterprise, there is room for the establishment of medical science among a large class who refrain from sending their sons to missionary schools. The past year has seen the establishment in Shanghai of a German medical *college in which* the instruction is given in German. It is well supported from the Fatherland and is in possession of a splendid equipment. Certain instrument-makers have sent out a complete supply of surgical instruments, two firms have each presented Roentgen-ray apparatus, while some booksellers have supplied a splendid library of up-to-date German medical literature, and a plentiful supply of drugs has been given by a number of drug firms to the pharmacy. The teaching staff has been formed of men specially sent out who stand high in the profession in Germany and are already making their school one of the best in the Far East. In this practical way are our T[illegible] head. Every student who will [illegible] is a Germanophile and will use [illegible] be a prescriber of German drugs, which are being imported in [illegible] that China is calling with [illegible] lanthropic charity. Such is [illegible] can oust the foreigner from her schools she will do so; she intends to follow in Japan's footsteps in this respect as soon as she conveniently can. During the past year she has dismissed the international foreign staff of the Peking Imperial University, even the Japanese professors have been sent back. As far as medicine *is concerned the more enlightened officials recognise they* have much to learn. It therefore behoves us to make use of the present opportunity for the people's sake to put her in possession of a body of well-trained Chinese medical men who will be the educators of her future students on sound lines—a question of the next ten years if one might hazard a guess from experiences of similar educational movements.

May 13th.

NEWCASTLE-UPON-TYNE.

(FROM OUR OWN CORRESPONDENT.)

Health of Newcastle.

[illegible] medical officer of health of New[illegible] that the death-[illegible] 17·3 per 1000 population, the lowest but one on record. The death-rate from the seven chief zymotic diseases—i.e., small-pox, measles, scarlet fever, diphtheria and membranous croup, whooping-cough, fever, and diarrhœa—was 1·32 per 1000 population, against a corresponding rate of 1·58 for the 76 largest English towns.

Vaccination Fees in Newcastle-upon-Tyne.

The question of the fees to be paid in respect of vaccinations to the officer of one of the districts in the city is still being actively discussed. It may be remembered that, as noted in these columns, the guardians recently decided by a somewhat narrow majority to retain the *old scale of payment* of 4*s.* 6*d.* per case to the officer to be appointed to a vacant district, rejecting the recommendation of their finance committee that the fee be reduced to 2*s.* 6*d.* The matter has now been taken up by the ratepayers' association, and at a meeting of this body last week a resolution was passed protesting against the action of the guardians in fixing the fee [illegible] *4s. 6d. Copies of this resolution* are to be sent to the [illegible]ocal Government Board, the district Government auditor, [illegible]nd to the board of guardians. A deputation was further appointed to wait upon the guardians in the matter.

Opening of a Sanatorium at Chester-le-Street.

A couple of years ago the Chester-le-Street local authorities were compelled by the Local Government Board and the county council to build a hospital *for the treatment of* small-pox. A building was therefore erected at a cost of £2500. Small-pox having been banished from the district it occurred to the local authorities that inasmuch as the building had never been once used for that purpose for which it was originally intended it might be utilised in another way. The building, after some alterations and a further outlay of some *five or six* hundred pounds, has now been formally opened as [illegible] of consumption, 26 beds being [illegible] h an institution being great in [illegible] be congratulated on its efforts [illegible]

Inter-university Students' Congress at Durham.

About 50 delegates from the various universities will be present at this Congress, which will commence on June 29th and continue until July 3rd. In supplement of the business sessions to be held a considerable programme of social arrangements has been made, amongst these being a reception at the *College of* Medicine on July 1st at the invitation of the President and Council of the College. In connexion with the Congress, some inter-university sports will be held in the College of Medicine athletic grounds in Newcastle.

June 21st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Resignation of Professor Chiene, Edinburgh.

AT a meeting of the Edinburgh University Court held on June 14th an application was submitted from Professor John Chiene for permission to retire from the chair of surgery. The court granted the request and agreed that it should take effect as from August 31st next. As was intimated recently in THE LANCET, Professor Chiene has not been in good health and on that account he had obtained leave of absence from his duties both in the University and in the Royal Infirmary. Professor Chiene is a graduate of Edinburgh of 1865. After graduation he was house surgeon to Professor Syme, and thereafter demonstrator of anatomy with Professor Goodsir. In 1882 he succeeded Professor Spence in the chair of surgery. He was for many years a popular teacher in the University. The candidates for the chair are members of the surgical staff of the infirmary. The chair is under the patronage of the Board of Curators, which at present consists of the Principal of the University, two Lords of Session, the Lord Provost, and three other representatives from the town council. At the same meeting of the University Court Professor Kirkpatrick was permitted to resign the chair of constitutional history, and Dr. Joseph Bell was appointed a curator of patronage as from Oct. 21st next, when Lord Stormonth Darling's term of office expires.

Medical Inspection of School Children in Fifeshire.

A conference was held between the Fife County Education Committee and the chairmen of school boards in the county to consider this subject. A committee, to consist of five members from Dunfermline district, five from Kirkcaldy, four from St. Andrews, four from Cupar, and two from Kinross-shire, was appointed to act along with the county committee in carrying a scheme into effect and to appoint assistant medical officers to carry it out. Dr. T. F. Dewar, county medical officer, will act as chief medical inspector, and there will be four male assistants under him and one lady medical officer for special cases. The inspection is estimated to cost 1*s.* per pupil. There are in the county (exclusive of Dunfermline burgh), 43,672 children, attending 135 schools.

Medical Inspection of Dundee School Children.

As provided by the new Education Act the Dundee school board has adopted the following scheme for the medical inspection of school children: a principal medical officer to be appointed, commencing with salary at £400, an assistant medical officer at £250, and two nurses at £70 each per annum, all being required to give their whole time to the work. With £210 for appliances, &c., the scheme will cost £1000 per annum, half of which falls to be met by Government grant.

Tuberculosis in Aberdeenshire.

At a conference of local authorities held in Aberdeen on March 12th, the question of what could be done with regard to the administrative control of pulmonary phthisis was discussed, and as a result Dr. J. P. Watt, medical officer of Aberdeenshire, has sent a circular to the medical men in the county as follows: "The local authorities within the county have had under consideration the circular of the Local Government Board, dated July 12th, 1908, dealing with pulmonary phthisis, and recommending, amongst other measures, that an endeavour should be made to isolate and treat certain cases of the disease, with the view of enabling the respective local authorities to form some idea of the extent to which provision for such cases might be required. I shall deem it a great favour if you will be so good as to fill up the accompanying schedule, and return it to me at your earliest convenience. I beg to enclose copy of a suggested scheme for dealing with pulmonary phthisis in the county, along with a statement submitted to a meeting of local authorities on March 12th, 1909, and I should be glad to know whether you would approve of such a scheme either in whole or in part. As the subject of phthisis is one in which all are interested any remarks or suggestions you may care to add will be most heartily welcome." The questions to which replies are requested are: "1. How many cases of pulmonary consumption are presently being treated by you? 2. Of these cases how many are (*a*) in the early stage; (*b*) in the advanced stage? 3. Of the early cases how many would be likely to take advantage of sanatorium treatment if offered (*a*) at a charge of 20*s.* to 25*s.* per week; (*b*) free? 4. Of the advanced cases how many are circumstanced that hospital isolation would be (*a*) advisable; (*b*) likely to be taken advantage of if offered free?"

June 22nd

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Burial of Bodies after Dissection.

THE burial of the bodies of the inmates of the metropolitan unions and the other destitute poor is a subject which is at present receiving a good deal of public attention—as is the correlated one of the accommodation and mode of interment afforded in the Catholic cemetery of Glasnevin. Both were discussed by the Dublin corporation last week and by the guardians of the North and South Dublin Unions. At a meeting of the board of the North Union held on June 16th it was proposed:—

> That as the statement of accounts of Glasnevin cemetery shows that some £1500 was invested last year, and some £1473 was received for interments, the North Dublin Union again request the cemeteries committee to receive a deputation from the board with a view to having certain grievances remedied, notably the excessive charges for burial and the system of "pit" burials

After the adoption of this motion it was moved:—

> That this board, having learned that the bodies of the poor transferred from this house to the dissecting schools do not receive Christian burial, now orders that no more dead bodies of the destitute poor go to these schools until arrangements are made for their interment in compliance with our resolution.

The originator of this motion had been convinced that "the unfortunate people buried in the 'pit' did not receive a Christian burial." The discussion was adjourned with an emphatic expression of the necessity for the fullest investigation. The subject is one of great importance to the Dublin schools of medicine.

The Belfast Harbour Commissioners and the City Council.

Under the Municipal Act of 1899 the city corporation of Belfast entered into a contract to erect purification works within three years from August, 1899. No purification works were erected, and as a result crude sewage escaped from the imperfect outfall shute and entered the Harbour Commissioners' channel, with the result that in 1905 it became necessary for the harbour board to remove it, and some 500,000 tons of crude sewage have been removed from the harbour channels at a cost of about £15,000 to the harbour board. That amount was claimed from the city council of Belfast, and the matter has been settled for £6000. A smaller sum was accepted than that claimed, it being thought that it would be unwise for two public boards, trustees for the people, to enter into litigation.

The Double Tenancy Question in Belfast.

At a meeting of the public health committee of Belfast held on June 17th the executive sanitary officer submitted a return in connexion with the number of notices served in the case of double tenancies in the various wards of the city, together with the number of tenants affected, and how many of these are females. In no case, excepting those where the entrance to the yard is in direct communication with the hall, can the upper tenant have access to the yard at all hours The entrance to the yard is either through the kitchen and bedroom on the ground floor or through the kitchen and passage, which is generally used as a scullery. The upper tenant has, therefore, to pass through some of the apartments on the ground floor, which cannot be said to be accessible at all hours. The water-supply is fixed either in the hall, kitchen, or passage leading to the yard, scullery, or yard. The rent varies from 1*s.* 3*d.* to 2*s.* 6*d.* per week for ground floor and from 1*s.* to 2*s.* per week for upstair portion. There are a total of 772 such houses in the various wards of the city of Belfast, and 263 female occupants of ground floor, 366 of first floor, and 16 of second floor, so that the total number of females occupying such tenement houses is 645 and males 942, making a total number of occupants of 1587. The total number of these houses with more than two families is 36 It is said that of 818 notices served only one case agreed in every particular with an opinion given by counsel as to the kind of a case that should be taken as a test.

Belfast and County Antrim Branch of the Medical Benevolent Society of Ireland.

At the annual meeting of this society held in Belfast on June 16th it was reported that for the past year the total sum raised was £164 6*s.* 11*d.*, and deducting the sum of £3 8*s.* 5*d.* for expenses, £160 18*s.* 6*d.* was forwarded to the central treasurer, being £13 19*s.* 3*d.* more than last year.

July 22nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Remarkable Transplantations of Organs and Tissues.

AT a meeting of the Academy of Medicine held on June 8th, Professor Pozzi, who had not long returned from America, created some sensation by his account of the remarkable transplantations of organs and tissues accomplished by Dr. Carrel of New York, and already referred to on more than one occasion in your columns. Dr. Carrel, a Frenchman, who commenced his medical studies at Lyons and afterwards proceeded to Chicago, is at the present time one of the directors of the Rockefeller Institute in New York. By means of sutures of extraordinary fineness combined with thoroughly aseptic conditions, he has succeeded in closing severe wounds of arteries, including the aorta [illegible] gaining [illegible] *flambeau.* [illegible] also tran[illegible] carotid a[illegible] portion of the femoral vein, and when the animals on which these various operations had been performed were killed after the lapse of a sufficient interval, it was seen that a complete substitution of one tissue for the other had taken place. Dr. Carrel has found that portions of veins or arteries removed from a living animal can be preserved for weeks and months hanging in a moist atmosphere in sterilised glass tubes hermetically sealed and kept at a temperature of 0° C. These portions of tissue retained their vitality so well that one of them could with complete success be substituted for a corresponding amount of the femoral artery of a living animal. As soon as the suturing was completed, the inserted portion, which had previously been somewhat pale, became pink, and an incision made at the extremity of the limb immediately yielded a drop of blood, showing that the circulation had been re-established [illegible] direction, he repl[illegible] artery taken from [illegible] Professor Pozzi sta[illegible] kidney, and thyroi[illegible] of animals and re-implanted them in a few moments, suturing their principal vessels, with the result that these organs immediately began to act. He has also transplanted entire limbs from one animal to another, replacing the fractured paw of a dog by a paw taken from a different dog. Dr. Carrel considered that there was every reason to believe that similar operations would succeed equally well in the human subject, but he has not yet made the attempt, although several Americans have declared themselves willing to have a missing arm or kidney replaced by one taken from a newly executed criminal.

The International Tuberculosis Society.

In May, 1910, this society, of which Professor Lancereaux is the president, will distribute several prizes and medals to the authors of the best works on the subject of tuberculosis. These awards will include a prize of 300 francs, one of 100 francs, and two of 50 francs each; there will also be two gold and three sil[illegible] by a *diplôme d'honneur.* Int[illegible] or foreign, should send [illegible] envelope to the general secretary, M. Georges Petit, 51, rue du Rocher, Paris.

Treatment of a Case of Slow Pulse.

At a meeting of the Société Médicale des Hôpitaux, held on June 4th, M. Ramond and M. Lévy-Bruhl described the case of a man, aged 31 years, who, after being severely injured by a fall, presented symptoms of slow pulse accompanied by vertigo and attacks of syncope. Before being seen by M. Ramond he had been a hospital patient for long periods and had undergone various methods of treatment without any benefit. The obtaining of a negative result with the atropine test suggested the existence of a lesion localised in the fasciculus of His, and M. Ramond accordingly gave several injections of biniodide of mercury. The pulse-rate rose rapidly from 38 to 44, 56, and at last to 68, the vertigo and attacks of syncope disappearing at the same time, but after somewhat violent bodily exercise there was temporarily a certain amount of vertigo, together with a fall in the pulse-rate to the extent of four or five beats per minute.

June 21st.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Il Congresso Forestale.

THE event of the week has been the Reafforestation Congress at Bologna, an assembly of the first importance for the subject dealt with and the men of authority who intervened. The subject, in varying degrees of interest, appeals to all nationalities. Open a consular report from whatever part of the outlying world, and one cannot fail to find references to the disastrous results of unchecked tree-falling and to the measures, in many cases too late, to retrieve those results. The latest of these, Mr. E. L. Harris's report from Smyrna to the United States Government, tells of Asia Minor what is a thrice-told tale of the Mediterranean countries:—"Much to the detriment of soil and climate...... the trees chopped down are never replanted, and after a few years the mountains, where once stood stately pines and cedars, are covered with miserable scrub and brushwood." Appropriately convened in the noble hall of the Chamber of Commerce, the Bologna Congressisti were fe[illegible] the Minister of Agric[illegible] who went at once to [illegible] the most urgent affl[illegible] floods, the land-slips, the avalanches caused by the ruthless destruction of the woods that once clothed and crowned the hills, bring sudden devastation and misery to the lowlands, making it necessary [illegible] import from countries less [illegible] the material for railways, [illegible] Of this necessity Italy had painful experience after the Siculo-Calabrian cataclysm, when the homeless survivors had to wait for days, nay weeks, in midwinter before the wooden huts could be run up for their accommodation. Passing next to the remedial measures prescribed by this state of things, Signor Cocco-[illegible] past and present, by [illegible] ht to rehabilitate the [illegible] need of better instruction at the two schools of forestry, that of Vallombrosa in Tuscany and Cittaducale in the Abruzzi, and of no less urgent need of a better "forestal service," the present one being underpaid and undermanned, and its surveillance of the forest districts altogether perfunctory. The speech of the day, however, indeed I may say of the Congress as a whole, was that of Italy's greatest financier, a member of the old Parliamentary Right from which her best statesmen have been drawn—Signor Luigi Luzzatti. Deploring that "strage" (tree-slaughter) which has reduced the slopes of the Alps and the Apennines to prairie, and made Italy dependent on foreign countries for timber costing her many hundred million francs a year, the orator plunged into financial proposals by which, where not too late, the means might be found for re-acquiring for the State the control of those denuded uplands, let out in many cases as pasture, and for proceeding to the work of reafforestation inspired by better schools of forestry and officered by a more efficient corps of inspectors. These proposals, carried into law, may take a generation to operate, but "*our sons*," he said, "will enjoy their salutary working in their exemption from floods, from degenerate soil, and the malaria it brings in its train." Hitherto, Italy has been lavishing her energies on the "*symptoms*," not on the "disease"; on the effects, not on the *causa causans.* She spends annually vast sums on embankments of rivers liable to autumnal inundation, till some of these have come to look like overhead canals or aqueducts, while neglecting the reafforestation which is the true preventive. In like manner, to antagonise the malaria-carrying mosquito, she gives money grants for the supply of quinine and wire gauze to the *campagnuoli*, while leaving the soil, with its vegetative energy unutilised, to degenerate under drought and stagnant pools. Italy has begun at the wrong end and cannot too soon return to the thorough systematic cultivation which made her, under the beneficent sway of the Antonines, the happiest of countries—when the Campagna was a smiling garden, or series of farms, with its hillocks discharging their surplus water into *fossae* which in turn debouched into the Tiber. To restore Italy to her long-lost balance between forest-growth and river-flow, from which the soil and its cultivator derive health and prosperity in equal measure—such was Signor Luzzatti's ideal, based on proposals to which the Congressisti could not but give a benevolent adhesion. Other speakers followed, conspicuous among them being the Commendatore Bertarelli of the Italian Touring Club, whose services he volunteered to the Government in the work of propaganda, to bring home to the mountain population the harm done by reckless tree-felling and to aid the "forestal inspector" or engineer in his efforts to preserve what still remains of the ancestral woods. At a subsequent sitting Signor Pini, speaking as a member of the Italian legislature, tabled some useful suggestions for the better organisation and efficiency of the forest *personnel;* and another distinguished parliamentarian, Signor Brunialti, pleaded fo[illegible] studio" of the mountain [illegible] he urged with scientific cogency and expository clearness. On its rising the Congress was entitled to claim for its proceedings a distinct step forward in the realisation of the great problem it has been convened to discuss. It remains for public opinion so to express itself through its legitimate channels, above all at the polling booth, as to leave the Government without excuse for postponing the solution of that problem, as so often previously, to the advent of its successor—in other words to the Greek Kalends!

June 19th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Plague.

THE plague returns for the week ending May 8th show 4279 deaths compared with 4411 in the week preceding. For the same two weeks Bombay Presidency reported 553 against 708, Bengal 319 against 212, the United Provinces 748 against 408, the Punjab 2525 against 2712, Burma 46 against 76, and Central Provinces 75 against 67. Six cases with five deaths occurred in Jammu district, Kashmir, during the week ending May 8th.

The Health of Bombay.

With the arrival of the hot weather the usual improvement in the health of the native population is reported. Cholera has almost disappeared and the general health of the city is once more very satisfactory. The proportion of plague-infected rats has considerably decreased and the incidence of plague itself has again fallen. The total number of deaths reported for the week ending Tuesday, May 11th, was 895, which includes six cases of imported cholera and plague, as against 1053 for the previous week and 905 in the corresponding week of last year. If deaths from plague be excluded the total deaths were 582, which represents a death-rate of only 30 per 1000. The deaths from plague for the week were 313, against 430 for the previous week and 260 for the corresponding week in 1908 and a five yearly average of 475. The number of deaths from small-pox for the week shows a slight increase, 24 against 17 the previous week, 54 the corresponding week last year, and 26 the mean for the last five years. Cholera caused ten deaths, three of which occurred in imported cases.

Popularising Quinine.

The education department has coöperated with the inspector-general of civil hospitals in the Punjab in popularising the use of quinine. In a circular to the inspectors of schools throughout the Punjab the director of public instruction says that he has been informed by the inspector-general of civil hospitals that the widening of the agency for the distribution of quinine has been attended with excellent results, the sales during the year 1908 having far exceeded thos previous years. In view of the common prejudice aga the use of the drug it is suggested that inspecting officer the education department might be invited to coöperate w the officers of the me[illegible]eir effort remove this mistaken [illegible] have b requested when visiting schools to inquire into the arra ments made for the sale of quinine and to urge sc teachers to bring this remedy to the notice of the pe with whom they come in contact. District and assis district inspectors have also been requested to do this.

The New Quarters for Army Nurses at Jhansi.

The quarters for the nursing sisters of Queen Alexand Military Nursing Service for India are nearly completed should be occupied before many months. Jhansi has b in need of lady nurses for duty in the station hospital some years past, and considering the size of the garrison authorities are quite right in supplying the long-felt wa While the army nursing service has been increased out of proportion in the United Kingdom little or no increase been effected in India, where there is really very m greater scope for trained ladies. Successsive princi medical officers on the headquarter staff in Simla h pointed out the numerical [illegible] present nurs service in India, but the [illegible] will not funds for an increase of the present meagre establishment

A Pasteur Institute for Burma.

It has now been definitely decided to build a Past Institute in Burma, and an excellent site has been selec to the east of Maymyo Cantonment on a ridge ab 3650 feet above sea level. The main building of institute and the bacteriological laboratory are to centrally situated in a combined *double-storey bungal* The vaccine department and pathological and parasitologi laboratories are to be single-storeyed bungalows. The cost the entire institute is estimated at Rs.578,229.

The Walker Hospital, Simla.

The Walker Hospital at Simla has now become such indispensable institution that one cannot understand h cases of serious illness among residents in Simla were treat before its foundation. It has a splendid record of succe especially as regards surgical operations, and on the medi side many an enteric fever patient has benefited by careful attendance and skilled nursing obtained in its war The fees charged are moderate, and the income from t source does not go far towards meeting current expens The Indian Government and the Simla municipality ren aid, directly and indirectly, but the financial position h always been rather a precarious one. In the United Kin dom hospitals rely greatly upon regular public subscriptio bequests, and special donations, but in India one cannot lo for any considerable sums of this kind. Patients come treatment from the Punjab, the United Provinces, and ev further afield, but subscription lists for the hospital are known in the plains. In Simla itself there are so ma demands for various charities that both the Walker and Ripon Hospitals fare badly when money has to be collect for them. The question of funds in regard to the former an urgent one and the committee is now considering how can best be met. It is not possible to increase the fee and Government will have to be appealed to for furth assistance. Public entertainments of some kind, such those organised by Lady Collen years ago, may give occ sional lump sums, but a permanent endowment is rea required. At the same time, an active canvass for su scriptions might be instituted, and this should not be co fined to Simla.

Obituary.

Captain C. D. M. Holbrooke, R.A.M.C., died at the Stati Hospital, Wanowrie, Poona, on May 6th, from abscess of t liver. The deceased officer, who was only 30 years old, ha been stationed at Poona for some time, where he was ve well known and popular. The funeral took place the sam evening and was largely attended by the officers of the Poo garrison. Captain Holbrooke entered the service in Januar 1905, and was promoted captain in the Royal Army Medic Corps in July, 1908.

May 18th.

THE DARWIN CENTENARY.

THE Centenary of Charles Darwin, which was inaugurated in his University of Cambridge on June 22nd, is a celebration perhaps unique in the world. If it cannot be said that *mankind from China to Peru is united in honouring the* memory of [illegible] yet a glance at the list [illegible] veral of the *leading* lay [illegible]om countries so far distant the one from the other as Japan and Chile. Darwin's great work of course was not so much the state*ment of the doctrine of Evolution, for that doctrine had* occurred to many minds previously, but the enunciation of the theory of Natural Selection, an explanation of the working of evolution, the honours of which he shared to some extent with Dr. Alfred Russell Wallace. The celebration lasted for three days and showed in a marked manner that, despite the genuine importance attaching to the recent developments of Mendelism, and the remarkable work of Bateson and de Vries, the scientific world accepts the views enunciated by Charles Darwin and regards them as the foundation of modern biology, considering that the theory of evolution by natural selection is still the most valuable weapon with which the problems of biology can be attacked, an opinion that can be shared by many stalwart Mendelians. The applause in the Cambridge Senate House with which the speeches of Lord Rayleigh, Professor Hertwig, M. Metchnikoff, Professor Osborn, and Sir Edwin Ray Lankester were received, shows how firmly the great Darwin is seated on his lofty pedestal.

Tuesday was devoted to the reception of delegates and other invited guests by Lord Rayleigh, the Chancellor of the University. The formal reception at the Fitz-William Museum was of an imposing character, suitable to the magnificent building in which it was held. Lord Rayleigh, wearing his robes of office, scarlet and black, received the *guests of the University, all of whom were wearing academic* dress or uniforms and orders. The museum, rich in the paintings of distinguished British and foreign artists, rapidly filled, and many of the guests streamed out into the adjoining gardens of Peterhouse, thrown open by the Master and Fellows of the senior college. The famous lime-tree avenue and the gardens beyond were decorated with Chinese lanterns, and the paths and flower-beds were bordered with fairy lights. The mixture of robes and uniforms and the dresses of the ladies contributed to make the scene a gorgeous pageant of academic life, linking up the knowledge of to-day with the traditions that go back to the earliest beginnings of the Middle Ages.

Wednesday was occupied with the presentation of addresses, visits of the delegates to various Colleges, the great banquet in the evening, and a garden party given by the Master and Fellows of Christ's College, of which Darwin was a member. At an early hour the Senate House was filled, and the delegates—some 243 in all—were in their places to offer to the University of Cambridge their eulogies of one of her most famous sons. The galleries were occupied by graduates and undergraduates, members of the University, and by ladies. At *half-past ten the audience* rose to welcome the Chancellor, who entered the building with the Vice-Chancellor and the senior and junior proctors, and preceded by the *mace of office*.

Business opened with Lord Rayleigh's address of greeting. After formally welcoming the delegates, he claimed that Cambridge was not held so fast in the bonds of mediævalism as some supposed, for the University was prepared to accept the result of all investigations scientifically undertaken. Darwin, he contended, had made himself beloved by all who had known his character, and was admired by all who *had* even a spark of scientific fire. He hoped that one outcome of the centenary celebrations might be the founding of a School of Genetics, a subject *closely connected* with the work of Darwin and of his nephew, Dr. Francis Galton.

On the conclusion of the Chancellor's speech the presentation of addresses began, and the *delegates as they came up* were received by the audience with applause. Naturally enough, the members of the Darwin family present, Sir George Darwin, Dr. *Francis* Darwin, Mr. William Erasmus Darwin, and Major Leonard Darwin, were accorded an ovation. Among others receiving special recognition were Professor Bateson, Professor Seward, Professor E. van Beneden, Professor Svante Arrhenius, Professor Hoffding, Professor Metchnikoff, Prince Roland Bonaparte, Professor de Vries, Marchese di San Giuliano, Dr. H. P. Keatinge, Sir Richard Solomon, Dr. T. G. Brodie, Sir Robert Stout, Dr. E. Rutherford, Professor A. Sedgwick, Sir Isambard Owen, Sir Archibald Geikie, Sir William Turner, and Professor James Cossar Ewart. The whole ceremony was a succession of brilliant military and diplomatic uniforms and academic robes. The Austrian delegates were in General's uniforms, being given this status by the Austrian Government as a privilege of their position.

The first of the four addresses was delivered by Professor Dr. O. HERTWIG, Director of the Anatomical Institute, Berlin. He pointed out that Darwin's views were more dominant in Germany than in any other country, and showed how they had been championed by Gegenbauer and Haeckel, and how they had formed the starting point for the researches of the younger men [illegible] and others. He concluded b[illegible] celebrations should be rightly [illegible] throughout the world, for Darwin owed his introduction to *science to the friends whom he found at Cambridge.*

Professor METCHNIKOFF emphasised the importance of Darwin's theory on disease. Darwin had made possible the *foundation of comparative pathology.* The whole history of inflammation and of the principle of immunity was Darwinian. [illegible] evolution of resistant strains of bacteria [illegible] In the absence of clear bearings a directing idea is needed to guide one in so obscure a region. Biologists believed that cancers arose from certain aberrant cells detached from embryonic layers, and remaining latent years and decades for the propitious moment to develop in excess. By taking our stand on the theory of the evolution of organisms as formulated by Darwin, the hypothesis to which I have just referred must be rejected. It is well established that embryonic layers were proper to inferior animals as well as to vertebrates and man, and the invertebrates never show the presence of tumours *other than those produced by agents* acting from without. It is therefore very probable that the cancers of man are also due to some cause foreign to the human *organism, in fact, to some virus. This," concluded* Professor Metchnikoff, "is being searched for with avidity, but has not yet been found."

Professor OSBORN of New York referred to the influence that Cambridge has exerted on American thought through the Universities of Harvard, Yale, Princetown, and other universities. A son of Harvard had just succeeded a son of Yale as President of the United States, and thus extended the influence of Cambridge through the Universities. Referring to Darwin's work, he said: "The image rises of a perfected optical instrument in which all personal equation, aberration, and refraction are eliminated, and through which, as it were, we gaze with a new vision into the marvellous forms and processes of the *living world. There* were some," he continued, "impressed by Darwin's grandeur, who thought that they would never get nearer the secret of *life than Darwin had done,* but to accept this idea would mean the abandonment of the progressive leadership of Darwin himself." He concluded by stating that he and his colleagues wished to present to the University a bronze portrait of Charles Darwin that the undergraduates might [illegible] the one [illegible] with- [illegible] *their* judgment, after 50 years of testing [illegible]on, the theory of natural selection remained whole, sound, and con- [illegible] that theory had in any essential [illegible] of muta- [illegible] variations [illegible]in's mind, but modern views which took this standpoint were not, the speaker considered, supported by sufficiently accurate and comprehensive experiments. The Mendelian experiments would have *interested* Charles Darwin, but *they* did not tend to call in question his theory of natural selection. Sir Edwin

Ray Lankester concluded by saying that while Darwin's work remained one of the chief glories of Cambridge all must feel proud of the essentially English character of the man.

Sir ARCHIBALD GEIKIE presented on behalf of the Royal Society a special copy of the Darwin medal, struck in gold. He reminded Lord Rayleigh that he had been secretary of the Royal Society when the idea first originated, and said that it was with the greatest pleasure that he asked him personally to hand it over to the University for its acceptance.

A garden party was held in Christ's College on Wednesday afternoon, which was well attended despite the threatening weather.

The banquet on Wednesday evening was given in the new schools, where covers were laid for 500. The Chancellor was in the chair, being supported by Lord Walsingham, the famous entomologist (High Steward of the University), the Duke of Northumberland, Sir Edward Fry, and the various distinguished delegates.

After the loyal toasts had been duly honoured, Mr. A. J. BALFOUR proposed the "Memory of Darwin." Having referred to his own admiration for Darwin, whom he coupled with those other Cambridge worthies, Newton, Young, Kelvin, Maxwell, and Stokes, he contended that the nineteenth century had borne the heat and burden of the day as far as science was concerned. Darwin's work, he said, was the intellectual heritage of every educated man, no matter what his trade or occupation, and Darwin would stand for all time as the man who had brought about a great and beneficent revolution. He was the Newton of his own broad line of research. He had made greater strides than any predecessor or successor in the study of life, and quite apart from the Origin of Species he had won the first place in the study of natural science. He possessed the skill of an investigator and the mind of a generaliser, and in each capacity had grasped the problems that needed solution. As a man he was never uncharitable or embittered and never ceased to represent fact as fact, despite the storm of obloquy to which his completely revolutionary conception of the world exposed him for years.

Professor SVANTE ARRHENIUS also spoke to the toast and referred to the antiquity of the idea of evolution and to the beginnings of it in the nineteenth century. The patience and impartiality of Darwin, however, had performed the epoch-making work, which extended in its construction over 30 years. He fully realised the far-reaching importance of his ideas, and applied them widely to problems including those of anthropology. The great intellectual revolution due to the introduction of evolution was the most important event in the development of the human mind since the political movement which began with the storming of the Bastille 120 years ago. In conclusion, Professor Arrhenius said: "Let me say that in thus venerating Darwin's memory all men of science regard him not only as an ideal man of science but as a man of science whose power and influence have been enhanced by his integrity and moral worth."

Mr. W. E. DARWIN gave his personal recollections of the great naturalist, his father. He had, he said, an abhorrence of oppression and cruelty, and especially of slavery. Politically he was a follower of John Stuart Mill and Gladstone. Referring to Darwin's neglect of poetry, he deprecated a popular misunderstanding that had tended to cast disrepute on the credit of natural science. He claimed that Charles Darwin could never have written either the closing chapters of the "Origin of Species," or a certain letter to his wife if he had not felt fully the poetry of the world and of life.

Professor E. B. POULTON proposed the toast of "Prosperity to the University of Cambridge," to which the Vice-Chancellor responded.

Later a reception was given at Pembroke College, of which the present Vice-Chancellor is Master.

On Thursday a Convocation for conferring honorary degrees was held and the Rede lecture was delivered by Sir Archibald Geikie, President of the Royal Society of London, the subject being "Darwin as a Biologist," while the afternoon was devoted to a garden party given at Trinity College by Mr. W. E. Darwin, Sir George and Lady Darwin, and other members of the Darwin family.

A lasting memorial has been issued by the Cambridge University Press in the form of a collection of essays called "Darwin and Modern Science," among the contributors to which are the most eminent writers on biology in various countries. The centenary celebration is a curious and striking reminder of the old saying, "Magna est veritas et prævalebit," for some 50 years ago Darwin's views were bitterly attacked, but, as in so many instances, that which was heresy is now orthodoxy, and the celebration this week held in the university of that other great thinker, Newton, is a worthy memorial of one who threw a light upon the dark places of organic life almost equal to that which Newton threw upon the mechanism of the universe.

Obituary.

FREDERICK NUTCOMBE HUME, M.R.C.S. ENG., L.R.C.P. LOND.

THE Metropolitan Asylums Board and the Territorial Forces have lost a valuable officer in the death of Mr. F. N. Hume on June 14th, aged 58 years. He was the third son of the Rev. C. N. Hume, who died just before becoming a centenarian, and was educated at Marlborough College, and then studied for a time at Wadham College, Oxford, until he diverted his attention from the classics to the pursuit of medicine. In 1871 he entered as a student at St. Thomas's Hospital and later became clinical assistant at the Victoria Park Hospital for Diseases of the Chest, obtaining his surgical qualification in 1876. A week later, with a few chosen friends, mostly from his own hospital, the young surgeon found himself at Belgrade and in another week, after surmounting the difficulties of red-tapeism, the small band of English surgeons were in the midst of the Turko-Servian campaign, treating the wounded upon the field, often under the enemy's fire. While so engaged they were absorbed by the National Aid Society, and Mr. Hume distinguished himself above his comrades by the rapidity with which he mastered colloquially the Servian language. At the end of the brief campaign he remained for some months to work in a Belgrade hospital, until lack of British funds caused it to be closed. In July, 1877, he was despatched by the Stafford House Committee to the Russo-Turkish war, and arrived in Turkey in time to witness the defeat of Raouf Pasha's army near Karabounar, and then to be present at the severe fighting of the Shipka Pass, when Suleiman Pasha was hurling the flower of the Turkish infantry against an impregnable position in the Balkans. By the official returns, which were certainly not overstated, 10,000 wounded Turks passed through the ambulance tents during those eventful days, and though there were many doctors on the Turkish side, Mr. Hume and two friends were alone in being capable of performing any surgical operations. When a lull took place in the fighting Mr. Hume retreated with the last of the wounded to some of the hospitals, which were then a seething mass of hospital gangrene, slightly in the rear of the position. But during the early days of 1878 he was back again at the front to take his part in the retreat of the Turkish troops across the Rhodope mountains, on the staff of Valentine Baker Pasha, whose successful defence is well known to military historians. The official report, written by th Stafford House Chief Commissioner of the Turkish arm (Sir V. [illegible]) states: "I wish here to recor the [illegible] on Hume, who, at great persona danger, rejoined his ambulance at Philippopolis by means o travelling along the railway line on a trolley at night, i close proximity to the enemy. He was carrying instruction and a considerable sum of money from Constantinople."

Mr. Hume settled down for some years in general practic in South Kensington, but was again employed by the Nationa Aid Society, in the short Servo-Bulgarian war of 1885, afte which he again acted as director of the English hospital i Belgrade. For his many services he received Turkish and Servian decorations and war medals. Soon after his retur to England in 1886 he rejoined the service of the Metropolita Asylums Board, for which he had already done some temporary work. After serving as assistant medical officer in the South-Eastern Hospital he became superintendent of the Northern Hospital, and eventually held a similar post in the North-Western Hospital, where he obtained the reputation of being one of the best administrators in the service of the board. For some years he was engaged in teaching the subject of fevers to medical students, a work which was very near his

His chief contributions … be found in th… rd. His latest p… and of the Second London Division in the Royal Army Medical Corps (Territorial Forces), where many of the men under his orders were servants of his own board. He threw himself into these new duties with characteristic energy, and on the day before his death marched six miles with his detachment to Bisley, and while so doing felt for the first time the preliminary pains which caused him to suspect the presence of angina pectoris, and from this he died suddenly a few hours later, apparently in his sleep. He was beloved by his friends for many sterling qualities, admired by acquaintances for an exceptional charm of manner, and he now leaves to deplore his death a widow and two sons, both at Westminster School.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced: Dr. Charles B. Porter, Professor of Surgery in Harvard University.—Dr. Saint-Yves Ménard, member of the Paris Academy of Medicine.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At examinations for medical and surgical degrees held recently the following candidates were successful in the subjects indicated:—

SECOND EXAMINATION.

H

Emmanuel.

THIRD EXAMINATION.

P

I

, B A., Christ's.

TRINITY COLLEGE, DUBLIN.—At examinations held recently the following candidates were successful:—

—PART II.

Medicine—I … Duff, Thomas A. Hughes, Eric J P … E. Craig, Frederick A. Anderson, John W. Flood, and Cecil F. Bingly.

DIPLOMA IN PUBLIC HEALTH.

Part I.—Charles D Myles

Part II.—Charles D. Myles and Dudley F. Torrens.

LITERARY INTELLIGENCE.—Dr. David Forsyth is shortly publishing with Mr. Murray a work on "Children in Health and Disease." The book is stated to present a complete scientific study of childhood, both *normal* and abnormal. After treating of the physiology and psychology of the normal child, the author deals with the health of children in elementary and public schools and with the principles on which the training and moral education of boys and girls should be founded. The State and municipal problems of infant mortality and of the idiot and feeble-… sed in detail. The concluding … e various aspects of disease as … Shaw and Sons of Fetter-… ce the first number of a new medical journal entitled *Heart*, dealing exclusively with the circulatory system, to be issued early in July. The journal is edited by Dr. Thomas Lewis, aided in the selection of papers by Dr. W. H. Gaskell, Professor A. R. Cushny (London), Dr. J. Mackenzie (London), Professor A. W. Hewlett (Ann Arbor), and Professor G. N. Stewart (Cleveland), with the collaboration of other well-known physiologists and physicians It is anticipated that the nature of the material with which the journal proposes to deal, and the standard of the work which it desires to record, will appeal to a large number of readers and contributors, and that those seeking new information with regard to the heart and blood-vessels will find it of special value. One of the main purposes which it wishes to serve is the assistance of workers upon circulatory problems, and those actively engaged in teaching. It will be issued, so far as possible, at regular quarterly intervals, and each volume will consist of four numbers. The subscription has been fixed at 20*s.* per volume, or 5*s.* 6*d.* per single number.—A brief study in the history of medicine is announced by the Oxford University Press. It is entitled "The Last Days of Charles II.," and the primary object of the author, Dr. Raymond Crawfurd, has been to establish the true cause of the monarch's death, which other historians have stated to be apoplexy.

THE twelfth annual dinner of the West London … s held on June 16th …, with Dr. Phineas … of "The Imperial Forces" was proposed by Mr. J. G. Pardoe, and was responded to by Fleet-Surgeon W. H. S. Stalkartt, R.N., now attending the post-graduate course at the West London Hospital. Surgeon-General A. M. Branfoot, I.M.S., also replied, and referred to the benefits which officers of the Indian Medical Service derived from attending the College. The toast of "The Hospital and College" was proposed by the Chairman and acknowledged by Mr. G. F. Marshall for the hospital. Mr. L. A. Bidwell … he College, said that the Post-… in 1896, and since then about … its course of instruction, the entry of new post-graduates last year being 232. The object of the institution was to enable practitioners in the country and abroad to keep themselves abreast with advances in medicine and surgery by attending hospital practice for from one to three months. All the newest methods of treatment were in use at the West London Hospital, and practitioners by seeing these methods applied obtained practical instruction in the way of applying the various new curative agents. The post-graduate students came from all parts of the world, from every colony, and from many foreign countries. A large number of the officers of the Indian Medical Service spent their study furlough at the college, and nearly all the medical officers of the Royal Navy were sent there for their post-graduate courses. Dr. Seymour Taylor submitted the toast of "The Visitors and Kindred Colleges," which was replied to by Sir R. Havelock Charles and Dr. C. O. Hawthorne. Mr. C. R B Keetley gave "The Health of the Chairman," which was duly acknowledged by that gentleman.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—The annual meeting of this association will take place on Tuesday, July 6th, at the Guildhall, London, when a conference of the Poor law medical … of England and Wales, to consider the recommenda-… the Poor-laws and Relief of … Right Hon. the Lord Mayor in …

the Report of …

wood, district …

Leonard, Shorec…

ance, Mr. C. S. …

isation Society; …

in a Unified Co…

(4) The Genesis of the Poor-law Infirmary, by Dr. F. S. Toogood, medical superintendent of the Lewisham Infirmary; and (5) The Public Health Aspect of the Report of the Royal Commission, by Dr. G. F. McCleary, medical officer of health of Hampstead. Three of the Royal Commissioners, Mr. Loch, Mrs. Webb, and the Rev. Prebendary Russell Wakefield, are to be at this conference, and it is hoped that as many of the Poor-law medical officers of the country as possible will endeavour to attend, so that the meeting may be representative of the whole service. The special business of the association will take place at 2 P.M., after which any matters postponed from the morning will be continued. The annual dinner will take place at the Waldorf Hotel, Aldwych, London, on the same evening, at 7 for 7.30 P.M., when Surgeon-General G. J. H. Evatt, C.B., the President of the association, will be in the chair. The price of the tickets is *7s. 6d.*, not including wine. Any Poor-law medical officer wishing to be present is requested to communicate with the honorary secretary, Dr. Major Greenwood, 243, Hackney-road, London, N.E Ladies are admissible among the guests. The Lord Mayor and Lady Mayoress have kindly invited Poor-law medical officers attending the conference to afternoon tea at the Mansion House between 3.30 and 6 P.M., the invitation to include ladies.

HOMES FOR INEBRIATES ASSOCIATION.—The report of this association, together with the twenty-fifth annual report of the Dalrymple House at Rickmansworth, prepared by the resident medical superintendent, Mr. F. S. D. Hogg, make interesting reading. Since the foundation of the retreat in 1883, 892 patients have been treated there, and a summary of statistics concerning them is appended. From this summary we learn that 401 patients have been admitted under the Act and 491 as private patients. Under the Act the majority of the inmates have been entered for 12 months and as private patients for three months. The ages of 420 of them have been between 30 and 40, and this we believe is about the age proportion that would have been anticipated. A large number of the patients (218) had no occupation, and among the remainder there were merchants, clerks, and medical practitioners. The medical man, more than the barrister, the solicitor, and the clergyman, seems to yield to the temptation of alcohol or of drugs, though the other professions are also represented. 601 are described as of nervous temperament, 796 had the associated habit of using tobacco, and 286 had had attacks of delirium tremens, one patient having had as many as 13. Spirits were the chief inebriant employed and an exaggerated sense of sociability was the exciting cause in 483 instances. The complicating diseases were, as would be expected, habitual constipation, general debility, and renal disease. Mr. Hogg calculates that during the ten years he has been in charge he has obtained the following results: doing well, about 64 per cent.; improved, about 16 per cent; and not improved, about 20 per cent. Mr. Hogg states that he has as yet discovered no drug which can be substituted suddenly, with safety, for morphia; and as regards the treatment of the morphia habit by combretum, in the first four cases in which he tried the remedy the results were all that could be desired, but subsequent experience has proved that it is only in some cases that this drug is of service. The report is a business-like little record of good work.

MAITLAND SANATORIUM.—A meeting in support of the development of a working colony as an after-stage to the sanatorium treatment provided at Maitland Sanatorium, Peppard Common, Oxfordshire, was held recently at the town house of the Hon. W. F. D. Smith. Mr. Smith, in opening, said the committee asked for £10,000 to provide and partially endow the extra beds required. Sir Richard Douglas Powell said the strength of the cause of which he was privileged to speak on that afternoon lay in the fact that it was no new scheme requiring large outlay in bricks and mortar and secretary's salary, &c., before the first patient could be received, but a scheme already at work, organised seven years ago by Dr. Esther L. Carling and her friends, and which had been at work for the past seven years. Having got the patients into the sanatorium, he said, the difficulty arose how to deal with them so that when they came out from the sanatorium they should be useful members of society. He used to observe that a man went into a sanatorium a human being and came out more or less of cabbage, or rather, in modern-day phraseology, a mollusc. A more recent system of sanatorium treatment had taken a step to improve that condition of things, to redeem the man or woman from the degenerating mental influences of a long system of treatment which used to consist of rest and over-feeding. The problem to consider after the patient had been in the sanatorium for a certain time, and the disease had perhaps been completely arrested, was what next to do for him. If this scheme was successful it might be possible to establish some sort of garden colony on the estate where some of these people could be retained for a longer time and enabled to do some work which would bring some result and yield them perhaps some small return. Such a scheme required much thought. If the public made up their minds that it was right to save these people then their duty went a little further and they must think how to help them afterwards. But at present many who went in very ill came out better but not able to face the strenuous labour of their previous calling. The cause had his most profound sympathy and he heartily trusted that it would be well supported. Dr. S. Davies, medical officer of health of Woolwich, detailed the experience of that borough in sending patients to the Maitland Sanatorium during the past seven years. He advocated the use of sanatoriums to municipal authorities as means of educational treatment, but considered that curative treatment was a matter for charity. He showed that the percentage of "*economic recoveries*" in Woolwich was 5 per cent. greater than that claimed in German statistics. Dr. Esther Carling said the sanatorium colony was needed to carry further the work of educational treatment which municipal authorities began. A children's wing and sanatorium school were also in immediate contemplation.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Medical Men and the Petrol Tax.

THE CHANCELLOR of the EXCHEQUER, according to present arrangements, will receive a deputation of medical men on July 1st in connexion with the taxation on the petrol used in motor cars. Representatives are to be included in the deputation from the medical section of the Motor Union and from the British Medical Association. The case which they will submit to Mr. LLOYD GEORGE is that the petrol tax falls inequitably on medical men, who have to use motor cars in order to reach their patients rapidly. It was thought for some time that the arrangements of the CHANCELLOR of the EXCHEQUER would not enable him to receive this deputation until a later stage in the session, but as the Finance Bill will not be taken on Thursday, July 1st, he has consented to meet it on that day.

The Transmission of Enteric Fever in the Army.

A memorandum by the Director General of the Army Medical Service on the transmission of enteric fever by the "chronic carrier" has been presented to Parliament The subject of "chronic carriers" of enteric fever in the army has several times recently been brought before the attention of the House of Commons by questions addressed to the Secretary of State for War with respect to seven men who have been under treatment at the Millbank Military Hospital. A good deal of misunderstanding existed on the question of "chronic carriers." Accordingly Mr. HALDANE obtained a memorandum from the Director-General of the Army Medical Service. It contains particulars as to the process adopted in the treatment of these men and also charts relating to the subject.

The Inebriate Acts in Scotland.

The report of the inspector for Scotland under the Inebriates Acts for the year 1908 shows that the decline of admissions to inebriate reformatories has continued, but the admissions to retreats have been slightly more than during the previous year. The admissions in the period under review numbered 94 in all. 75 were to retreats, 13 to certified reformatories, and 6 to the State reformatories. The discharges for the year amounted to 133. Of these, 87 were from retreats, 31 from certified reformatories, and 15 from the State reformatories.

Experiments on Living Animals.

The return on experiments on living animals during the year 1908 under licences under the Act 39 and 40 Vict. c. 77 is now available as a Parliamentary paper. Mr. G. D. THANE, the inspector, in his report states that during the year 1908 the total number of licensees under the Act was 453, but 126 of them performed no experiments The number of experiments other than those of the nature of simple inoculations, hypodermic injections, or similar proceedings was 2851. Of these 1452 were performed under licence alone. In this case the animal must during the whole of the experiment be under the influence of some anæsthetic of sufficient power to prevent it feeling pain, and the animal must, if the pain is likely to continue after the effect of the anæsthetic has ceased, or if any serious injury has been inflicted, be killed before it recovers from the influence of the anæsthetic. The use of anæsthetics is also required under several of the special certificates. Inoculations, hypodermic injections, and some few other proceedings performed without anæsthetics are responsible for 85,783 experiments. The total number of experiments on animals for the year 1908 is thus 88,634, being 15,230 more than in 1907. Mr. THANE describes in detail the nature of the experiments and points out that a very large number of them are painless. He states that in the event of pain ensuing as a result of the inoculation, a condition attached to the Licence requires that the animal shall be killed under anæsthetics as soon as the main result of the experiment has been attained. Dr. THANE adds that the usual inspections of registered places were made by Sir James Russell and himself. They saw numerous animals under experiment and found the licensees attentive to the requirements of the Act, as well as to the conditions appended to their licences by the Secretary of State. The irregularities which had occurred during the year were few, and all arose from misunderstanding or inadvertence with respect to the extent or application of certificates. By direction of the Secretary of State a suitable admonition was addressed to each of these licensees.

A separate report is made in respect to Ireland by Mr. W. THORNLEY STOKER, the inspector. 20 licences were in force in that country during the year under review, and the experiments performed were 330 in number. The inspector states that the work done in Ireland under the Act was, in his opinion, free from abuse and was sincere and well-intentioned. He attributes the increase in the number of licensees and their experiments to the study of new investigations and treatments of disease by means of antitoxins, sera, and vaccines.

Anæsthetics Bill

Mr. COOPER on June 22nd introduced his Bill to regulate the administration of anæsthetics. It was read a first time.

Nurses' Registration.

One of the obstacles in the way of Bills dealing with the question of the Registration of Nurses has been the fact that rival schemes were in the field. A conference has been arranged between representatives of the organisations interested in the various projects with a view to reconcile points of difference.

Colouring Matter in Margarine.

The Sale of Margarine Bill, which has this week been under the consideration of a Standing Committee of the House of Commons, seeks to prevent the use of colouring matter in margarine so as to give it the appearance of butter. The promoters of the Bill, to which considerable opposition has developed, allege that extensive frauds are being carried out by which margarine is being sold as butter.

Glasgow Hospital for Diseases of the Skin.

The Glasgow Hospital for Diseases of the Skin Order Confirmation Bill has passed through all its stages in the House of Commons.

HOUSE OF COMMONS.

THURSDAY, JUNE 17TH.

The Campaign Against Mosquitoes at Cairo.

Mr. RAMSAY MACDONALD asked the Secretary of State for Foreign Affairs whether [illegible] of Mr. Hugh C.
Ross, steps were [illegible] osquitoes from
the district of G[illegible] s's resignation,
there [illegible] ge of
the w[illegible] of a
native [illegible] the
Minist[illegible]

[illegible] results obtained under Mr. Ross's supervision and of the importance of this work to the health of the city, the Egyptian Government would be communicated with on the subject.—Sir EDWARD GREY replied: Mr. H. C. Ross was instructed in December, 1906, to take measures for the destruction of malaria breeding mosquitoes in part of Cairo, and shortly afterwards at Heluan and in other quarters of Cairo. I am aware that, after Mr. Ross's resignation, the post which he had filled was given to an officer of the Royal Army Medical C[illegible] to whether
any b[illegible] ie latest
inform[illegible] 08, and is
to the [illegible] ing very
efficien[illegible]
to the collapse of the campaign
in a letter to *The Times* that a
nor have I heard any complai[illegible]
employed on this work in Cair[illegible]
Egyptian Government are continuing to use their best efforts to stamp out malaria, and I therefore see no necessity for the interference of His Majesty's Government in the matter.

The Indian Medical Service.

Mr. KETTLE asked the Under Secretary of State for India whether, in pursuance of the scheme of reform outlined in the paper lately presented to Parliament, Indian medical men, not belonging to the Indian Medical Service, would be appointed to such posts as those of surgeon-general, professor in the medical colleges, physician or surgeon in Government hospitals, chemical examiner, sanitary commissioner, and the like, or whether it was proposed to appoint native Indians only to posts of minor importance.—Mr. HOBHOUSE answered: The title of [illegible] the Indian Medical Service; as
[illegible]
extension, without restrictio[illegible]
[illegible]
vacancies shall be filled.

Enteric Fever in King's County.

Mr. REDDY asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that an outbreak of fever has recently taken place in Clonfanlough, Ferbane, dispensary district, King's County, and that up to the present four deaths had occurred; would he state what time elapsed between the date of notification by the [illegible] the inspector on the scene;
[illegible]
[illegible] cal Government Board that
there were 16 cases of enteric fever last month at the place men-
[illegible]
of water sent for analysis has been found to be polluted. The medical
officer appears to the Board to have [illegible]
connexion with the outbreak, which [illegible]
case is reported to have occurred [illegible]
[illegible] r water supply.
[illegible] e from the date
[illegible] on the scene there was
[illegible] ay that he has done his
[illegible] g them in a fix all that
time [illegible]

Newspapers and Coroners' Inquests.

[illegible] for the Home Department
[illegible] of introducing legislation
[illegible] spapers of the holding of
[illegible] attendance to the public at
[illegible] The suggestion will be re-
[illegible] o the law and practice of
coroners' inquests

A Shoreditch Inquest.

Mr. TALBOT asked the President of the Local Government Board
whether his attention had been ca[illegible]
Shoreditch, where the evidence of t[illegible]
was no food in the child's stomach [illegible]
properly fed for a long time; wheth[illegible]
that the relieving officer had refus[illegible]
[illegible] uch cases.—Mr. BURNS [illegible]

Local Government Board Administration.

The House went into Committee of Supply on Civil Service Estimates, Mr. EMMOTT in the chair.

On the vote of £169,294 for salaries and expenses at the Local
[illegible]
[illegible] of the Local
[illegible] r or
[illegible] sure
[illegible] t to
[illegible] and
[illegible] Government Board [illegible] not
[illegible] Board of Agriculture to pro-
[illegible]
in a position
which had been [illegible] children wholly or partly [illegible]
in England 230,000 children wholly or partly [illegible]. Of these children 70,000 were in and outside Poor-law institutions.

cottage homes, barrack schools, scattered homes, district schools, and workhouses and infirmaries. A child in a district school cost from 10s. to 13s. 7*d.* per week; in a barrack school from 10s. 4*d.* to 18s. 8*d.*; in a cottage home from 12s. 9*d.* to 25s. 2*d.*; and in a scattered home from 8s. 6*d.* to 11s. 2*d.* He mentioned those figures to show that so far as money was concerned the public benevolence towards the children dependent upon the State was larger and more generous than in any other country in the world. In London 50 per cent. of the "indoor" poor were in specialised institutions, and it had been brought to his attention that 40 per cent. of all the deaths in London took place in public institutions of some kind. From that fact a number of superficial people had deduced a totally wrong theory. Instead of this being taken as a sign of decadence on the part of the community he considered it as being an unmistakable sign of increasing intelligence on the part of the poor themselves by anticipating disease, and when the disease from which they were threatened broke out instead of going to the twopenny or threepenny dispensary doctor they went to these institutions and got the best attention that they possibly could, from the most skilled experts in the various complaints from which they suffered. It had been pressed upon him that afternoon that by taking action on the reports of the Poor-law Commission, the Government, and especially the Local Government Board, might do a great deal by administration. He was delighted to hear so much unanimity upon that point, because when he ventured the other day to suggest hypothetically that nearly all the problems with which that report dealt should be remitted to the Local Government Board he heard suggestions of bureaucracy, and his honourable friend (Mr. Masterman) and he (Mr. Burns) were regarded as oligarchs who wanted to supersede the power of Parliament in settling Poor-law problems. There was much which could be done by administration, and so far as sick children were concerned let him give an illustration. London had 2500 sick children in its workhouses and infirmaries. He and his department were so impressed that this was wrong that they applied to the Metropolitan Asylums Board for an absolutely new institution, which was not being used, which cost £200,000, and which was situated on the breezy downs of Surrey at Carshalton. It was decided to acquire that institution. He was glad to say that 1000 of the 2500 sick children had been transferred from the workhouses and infirmaries into this special institution where the children would be better treated, he believed, at a cheaper cost, because they would recover more quickly at Carshalton than in the workhouses from which they had been taken. If there were any other local authorities who had a similar institution to place at his disposal, he should be glad to take over one, two, or even three more, and he should not rest content until the whole of the sick children in London workhouses and infirmaries, and also in the provinces, were transferred to institutions in which they could be better cared for than they could be in those institutions, however good they might be. Having dealt with the subject of boarded-out children, he said that he proposed to issue an Order to bring the children within the union under the inspection of the Local Government Board inspectors. The community should make the best of the institutions which it had, but it should get rid of ins [illegible] as rapidly as possible. Another question had been rai [illegible] for Bath (Mr. Maclean)—the condition of [illegible] nt of view of sanitary accommodation. The atten [illegible] rnment Board was very properly called to the condition of the [illegible] o-British Exhibition last year, in its sanitary aspect, for the enormous number of people who went there every day and for the staffs who had to minister to their enjoyment. He had promised the honourable Member that he would take action. It was not necessary for the Home Secretary to interfere. Proposals were brought before the authorities of the exhibition and before it closed the situation was considerably relieved. Between the close of the exhibition last year and the present time, he had satisfied himself that the necessary steps had been taken, and at this moment 131 public comfort places had been provided for both sexes. The point had been raised in the debate that so much having been done for the children in the Poor-law schools, it would surely be inconsistent to neglect the larger number of children who were receiving out-door relief. There was something in that point. Honourable members would be pleased to know that the Local Government Board had decided that, so far as the recipients of out-door relief were concerned, the Board would follow up the Tuberculosis notice issued in last January. He ventured to say that fifty years hence the Local Government Board would be credited, for having issued the Tuberculosis Order, with having done a great deal to mitigate the spread of the disease and a great deal for public health. By that Order and by regulations and by bringing children within the purview of attention, he believed a great deal would be done to diminish tuberculosis and other diseases. The right honourable gentleman went on to say that the Notification of Births Act had been adopted by 140 towns and boroughs. The Registrar-General said that 84 large towns had adopted it, and that of the 140 which had altogether adopted it, 18 were metropolitan boroughs. The City of London had adopted it, and he was pressing the remainder of the metropolitan boroughs to adopt it. If they did not do so he should have to take steps to force them, but he sincerely hoped that such a course would not be necessary. There had not been sufficient experience of the Act to enable him to give statistical details, but he was convinced that the Notification of Births Act and the regulations dealing with tuberculosis and those relating to outdoor relief would do a great deal of good towards stopping some of the worst diseases. It had been suggested that in addition to what was being done to meet the ravages of tuberculosis, the Local Government Board should issue more circulars. It had sent out several memoranda which had been issued to all sanitary authorities. If it was necessary to extend the system of education to all local authorities he would consider the best way in which that could be done. That brought him to another point which had been raised by several members, and it related to the question of infant mortality. The committee would be pleased to know that the general infant mortality of the whole country had shown a direction downward. The rate had fallen from 140 or 150 to 113 throughout the whole country. He believed that the steps which had been taken through the Notification of Births Act would tend still more to the rapid diminution of infant mortality. Unfortunately, in some of the midland and northern towns, where, in his judgment, too many married women went to work under conditions and at a time when they ought to be at home, and frequently resumed work when they should be nourishing themselves and sustaining their children by natural means, the infant mortality was still too high. That aspect of infant mortality had not been raised that afternoon. What had been raised had been the infant mortality with which the Local Government Board could deal, and both the honourable Members for Bath (Mr. Maclean and Mr. Gooch) would be pleased to know that the infant mortality with which they had dealt—viz., the infant mortality in workhouses and infirmaries—was being dealt with. The medical department of the Board was going to follow up the excellent report on Public Health and Social Conditions which had recently been issued, and intended to produce a special report on infant mortality viewed from several aspects which had not been dealt with in the past. That inquiry was now going on and the excellent books which had recently been published would be supplemented by a special report on the investigation into infant mortality. He sincerely trusted, as far as that was concerned, the investigation and the report would satisfy the honourable Members. It was only fair that he should deal with one suggestion made by one honourable Member, and that was as to the death-rate that happened occasionally—he admitted too frequently—in some of the worst districts in the workhouses and maternity wards and infirmaries. It was only right that honourable Members should temper their reception of certain allegations made recently in various newpapers by a knowledge of facts and circumstances as to the death-rate of infants born, often to women who had been cruelly treated and beaten, overworked, and badly cared for, before they came into the workhouse, and very often absolutely in the process or immediately before the act of childbirth itself. It stood to reason that a child whose father and mother were living under these bad conditions could not be expected to live, or if it lived, to be as strong as children differently placed. Where 60 per cent. or 70 per cent. of the women who were in the maternity wards in London and workhouses were illegitimate mothers, as against only 4 per cent. of illegitimate mothers outside, it stood to reason that the children who were the offspring of such women could not expect to live, or if they lived, to be as strong as the children of legitimate parents. The honourable Member for Merthyr Tydvil (Mr. Keir Hardie) shook his head at that statement. Did the honourable gentleman agree with Savage the poet, who himself was illegitimate, that illegitimate children were the sickly fruit of fond compliance? No, he could not. Did the honourable Member take the converse view that illegitimate children, according to the same poet, were stamped in the mint of nature's glowing ecstasy? Certainly not. What were the facts? The facts were that illegitimacy not only connoted moral delinquency, but also indicated physical degeneracy.

Mr. JOHN WARD: Nonsense.

Mr. BURNS: If honourable Members will do me the honour of going with me to some of the maternity wards in London workhouses and see poor children, the offspring of illegitimate mothers, they will see how disease, lack of food, overwork, and brutal treatment have destroyed the power and capacity of the illegitimate child to resist disease. They would see how very difficult it was to rear illegitimate children born under such conditions, and that was proved by the fact that the extent to which workhouse mortality amongst infants was greater than outside was apparent only in the first week, because after the first week, when good treatment, good food, good nursing, and regular medical attention were always available, the child got into a healthier condition and improved very rapidly. The Local Government Board was giving further attention, as far as it possibly could, to this matter, and he was convinced that the mortality of children outside workhouses and inside them would never be materially reduced until the pre-natal conditions of the child, the conditions of the mother long before the child's birth, were enormously improved; and it was the business of every employer of labour, of every husband and wife, and of every department and authority concerned in the future of the race, to see that the pre-natal conditions of the child were vastly improved, and that the mother while carrying the child should be relieved from brutality and overwork, conditions which left on the child an impress for long years after it had left either the home, the workhouse, or the infirmary. The right honourable gentleman also dealt with the question of the adulteration of butter. He said that the Butter and Margarine Act of 1907 would be administered principally by the Board of Agriculture and Fisheries, but under it certain powers were given to officers of the Local Government Board. If honourable Members turned to the last report on this subject they would find that in 1907 93,716 samples were taken in England and Wales, and the great bulk of them were for butter, milk, or margarine. In 1908 the number of samples had increased to 96,249. In Scotland 8576 samples were taken in 1907 and 8827 in 1908. In all the United Kingdom it was safe to say that over 100,000 samples were taken. Prosecutions had been entered upon, and in many cases very heavy fines, and in one or two cases imprisonment, had been meted out to those guilty of palming off upon both rich and poor food other than what food really ought to be. The Local Government Board incurred a great deal of unpopularity and had very great difficulty in getting the Food Regulations Act through a year ago to give wider powers to stop the sale of unsound food. Honourable Members could rest assured that he was anxious to protect the food of the poor. If the honourable Member (Mr. Kilbride) would only take the trouble to look at the reports of the Local Government Board and the Board of Agriculture and see the enormous number of prosecutions, he would find that his (Mr. Burns's) department was not at all anxious to allow the man who "fobs off" on the poor margarine for butter, or what was equally bad, rancid instead of fresh butter, to escape. There was no present local or administrative power which the Local Government Board now had that it would not be willing to exercise to the fullest to prevent under the Food and Drugs Act, the Butter and Margarine Act, and the Food Regulations Act either adulterated or impure food being sold. The right honourable gentleman further stated in regard to vaccination that in 1905, 4 per cent. of the children born were exempted; in 1906, 5 per cent.; and in 1907, 6 per cent. Mainly as the result of the Act which he piloted through the House two years ago the 6 per cent. of 1907 was raised last year to 17·2 per cent.

The amendment having been withdrawn, the vote was agreed to.

MONDAY, JUNE 21ST.

The Water-supply of Vatersay.

Mr. COCHRANE asked the Lord Advocate whether his attention had been drawn to the reports of the medical officer of health and the county sanitary inspector for Inverness-shire condemning the water-supply of Vatersay as being insufficient for 60 crofter families and liable to serious contamination; and what steps the Congested Districts Board intended to take to give to their proposed new settlers an adequate water-supply free from any risks to health.—Mr. URE replied: I am aware of the [illegible] ined [illegible] ture [illegible] th a [illegible]

The Imports of Ether and Chloroform.

[illegible]

TUESDAY, JUNE 22ND.

Fever in the Ferbane Dispensary District.

Mr. REDDY asked the Chief Secretary to the Lord Lieutenant of [illegible] quiry.

The Sale of Medicated Wines in Scotland.

Mr. WATT asked the Chancellor of the Exchequer whether his atten- [illegible] in Scotland had to take [illegible] to sell medicated wines to [illegible]

[illegible] of State for [illegible] had been the [illegible] Bombay, had [illegible] would state [illegible] teur Institute [illegible] tor has been [illegible] en appointed [illegible] the Bombay Government to continue the inquiry on which [illegible] ptain McKendrick was engaged.

BOOKS, ETC., RECEIVED.

[illegible] AND CO., LIMITED, London.

Guy's Hospital Nursing Guide, Handbook of Nurses' League, and Register of Nurses Trained at Guy's Hospital. Edited by the Matron. 1909. Price 1s 6d.

[illegible] ILLIÈRE, J. B., ET FILS, Paris.

Les Actualités Médicales. Les Opsonines et la Thérapeutique opsonisante par les Vaccins de Wright. Par le Dr. René Gaultier. Price Fr. 1.50.

Bibliothèque de Thérapeutique. Publiée sous la Direction de A. Gilbert et P. Carnot. Physiothérapie. *Électrothérapie* Par le Doc [illegible] Price Fr. 10 Radiumthér [illegible] ique, Traitement des Cancers, [illegible] urits, Névrodermites, Eczémas; [illegible] Par le Dr Louis Wickham [illegible] de M. le Professeur Fournier. Price Fr. [illegible]

[illegible] ILLIÈRE, TINDALL, AND COX, London.

The After-Treatment of Operations. By P. Lockhart Mummery, F.R.C.S. Eng., B.A., M.B., B.C. Cantab. Third edition. Price 5s. net.

[illegible] AKISTON'S SON (P.) AND CO., Philadelphia, U.S.A.

Experimental Pharmacology. *A Laboratory Guide for the Study of the Physiological Action of Drugs.* By Charles Wilson Greene, Ph.D. Third edition, revised. Price $1.00 net.

[illegible] AUMÜLLER, WILHELM, Wien und Leipzig.

Vergiftungen. Klinischer Teil. Erste Hälfte: Allgemeines. Anorganische Gifte. Von Dr. Franz Erben. Mit Vorwort und zwei Beiträgen von Prof. Dr. R. v. Jaksch. (*Handbuch der ärztlichen Sachverständigen-Tätigkeit.* Herausgegeben von Professor Dr. Paul Dittrich. Siebenter Band, Erster Teil.) Price M. 12.

BRITISH OLYMPIC ASSOCIATION, London.

[illegible]

CASSELL AND CO., LIMITED, London.

The Open-Air Treatment of Pulmonary Tuberculosis. By F. W. *Burton-Fanning, M.D. Cantab., F.R.C.P. Lond.* Second Edition. Price 5s.

CHURCHILL, J. AND A., London.

Saint Thomas's Hospital Reports. New Series. Edited by Dr. H. G. Turney and Mr. W. H. Battle. Price 8s. 6d. net.

DARIEN PRESS, THE, Edinburgh.

A Handbook on Foreign Study. Compiled and edited by H. J. Darnton-Fraser. With an Introduction by the Right Hon. R. B. *Haldane, K.C., M.P.* Price 6d. net.

DOIN, OCTAVE, ET FILS, Paris.

[illegible] *Moelle. Par le* [illegible] tifique. Publiée [illegible] l'État Normal et [illegible] e Volume. *Price* [illegible]

FISCHER, GUSTAV, Jena.

Mitteilungen aus der Augenklinik des Carolinischen Medico-Chirurgischen Instituts zu Stockholm. Herausgegeben von Dr. J. Widmark. *Zehntes Heft. Price* M.7.

Die Morphologie der Missbildungen des Menschen und der Tiere. [illegible] Dr. Ernst Schwalbe. III. Teil. Die [illegible] Bearbeitet [illegible] Bearbeitet [illegible] hoff. Zwei [illegible] en. Herausg- [illegible] ing. Vierte [illegible] 4.50. [illegible] rof. Dr. E. [illegible] Gaupp. Price M. [illegible]

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

Oxford Medical Publications. Aseptic Surgery. By Charles Barrett Lockwood, F.R.C.S. Third Edition. Price 6s. net.

GREEN, WILLIAM, AND SONS, Edinburgh and London.

A Practical Treatise on Disease in Children. By Eustace Smith, M.D. Third edition. Price 21s. net.

GRIFFIN, CHARLES, AND COMPANY, LIMITED, London.

Foods: Their Composition and Analysis. *A Manual for the Use of Analytical Chemists and Others.* By Alexander Wynter Blyth, M.R.C.S., F.I.C., F.C.S., &c., and Meredith Wynter Blyth, B.A. Cantab., B.Sc. Lond., F.I.C., F.C.S., &c. Sixth edition, thoroughly revised, enlarged, and rewritten. Price 21s.

[illegible] ROYALE DE BELGIQUE, Bruxelles.

[illegible] tionale de Chirurgie, [illegible] I. Procès verbaux et [illegible] liés par les Docteurs [illegible]

[illegible] Berlin.

[illegible] eichen Städten [illegible] Von Dr.-Ing. [illegible]

KARGER, S., Berlin.

Die Erkennung des Schwachsinns im Kindesalter. Von Prof. Dr. Th. Ziehen. Price M. 60.

[illegible] ologie. [illegible] Ung. [illegible] r. W. [illegible] Von [illegible]

KIMPTON, HENRY, London.

Practical Text-book of Midwifery for Nurses. By Robert Jardine, M.D. Edin., M.R.C.S. Eng., F.F.P. & S. Glasg., F.R.S. Edin. *Fourth edition. Price 5s. net.*

KLINKHARDT, Dr. WERNER, Leipzig.

Jahresbericht über die Fortschritte der Inneren Medizin im In- und Auslande. Begründet von Geh. Medizinalrat Prof. Dr. Ebstein, Göttingen. Redaktion: Dr. Schreiber und Dr. Bigler. Bericht über die Jahre 1902 und 1903. I. Band. Price M.20.

LANE, JOHN, London. (JOHN LANE COMPANY, New York.)

The Making of Species. By Douglas Dewar, B.A. Cantab., I.C.S., F.Z.S., and Frank Finn, B.A. Oxon., F.Z.S., M.B.O.U. Price *7s. 6d.*

[illegible] COMPANY, London.

[illegible] *Pathology. By Dr. Ludolf Krehl* [illegible] the Fourth German Edition by [illegible] *With an Introduction by William* Osler, M.D. Second [illegible] Price 21s. net.

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

The Fundamental *Principles of Chemistry. An Introduction to all Text-books of Chemistry.* By Wilhelm Ostwald. Authorised Translation by Harry W. Morse. *Price 7s. 6d. net.*

THE HUMOURS OF PARLIAMENT.

THE following delightful passage appeared on the question paper of the House of Commons for June 16th:—

> 14. Mr. Leverton Harris,—To ask Mr. Chancellor of the Exchequer, which of the following substances when found in Great Britain are to be considered minerals within the meaning of Clause 12 of the Finance Act: abriachanite, acanthite, acmite, actinolite, adamite, adinole, adularia, ægerine, æschynite, agalmatolite, aikinite, alabandine, alabaster, alalite, albertite, albite, alexandrite, algodonite, allanite, allemontite, allochroite, allomorphite, allopalladium, allophane, almandine, alstonite, altaite, alum, aluminite, alunite, alunogene, amalgam, amazonstone, amber, amblygonite, amblystegite, amethyst, amianthus, amphibole, amphodelite, analcime, anatase, anauxite, andalusite, andesine, anglesite, anhydrite, ankerite, annabergite, annerodite, annivite, anomite, anorthite, anthophyllite, anthracite, anthraconite, antigorite, antimonial nickel, antimony, apatite, aphrite, aphrodite, apophyllite, aquamarine, aragonite, arcanite, ardennite, arfvedsonite, argentite, arkansite, arksutite, arquerite, arsenic, arseniosiderite, arsenolite, asbestos, asphaltum, astrakanite, astrophyllite, atacamite, atopite, augite, aurichalcite, avalite, aventurine, axinite, and azurite.

We feel constrained to point out for the information of Parliament that aurichalcite has nothing to do with gold. The word is properly spelled orichalcite, Gr. ὀρείχαλκος. Chemically it is a hydrous zinc copper carbonate $H_6\,(ZnCu)_5\,C_2\,O_{12}$.

METALLIC CONTAMINATION OF TINNED FRUIT.

A PROMINENT feature of Mr. W. F. Dearden's last report to the port sanitary authority of Manchester was the number of tons of preserved fruit seized and condemned on account of metallic contamination. The seams of the tins had been sweated and re-soldered, with the result that a considerable amount of solder had become exposed to the action of the acid contents, and in many cases there were so many pellets inside that the tins rattled like money-boxes. Lead and tin were found in all the samples forwarded to the Public Health Laboratory. *The tomatoes contained as much as 1·20 of a grain per pound.*

DEAFNESS AND BATH TOWELS.

A CORRESPONDENT writes that she considers she has found "the solution of the increasing cases of deafness." She thinks it due to the use of bath towels with which, she argues, it is impossible for the bather to dry the ears, whereas the old-fashioned fine towels allowed the inside of the ear to be dried. There may be something in our correspondent's idea, but surely it is quite simple for anybody to use both a fine towel and a bath towel, or if they do not possess the former article such a simple thing as a handkerchief or even a piece of soft paper will serve admirably as a means of drying the external meatus.

AN EXPIATORY SACRIFICE.

Mr. E. O. Blech, British Consul for the district of Jerusalem, reports that in 1908 public health remained good, but there was an epidemic of cerebro-spinal meningitis, confined almost exclusively to the poorer class of Jews, from which many deaths occurred, about 12 per cent. of the cases being fatal. "It is characteristic," adds Mr. Blech, "that as a means of averting this disease recourse has been had to the strange plan (followed, it is said, during a cholera epidemic 50 years ago) of marrying one or several couples of pauper Jews, who have been provided with an outfit and a living allowance for a certain period at the cost of the community. These marriages take place in the Jewish cemetery and are looked upon as a kind of expiatory sacrifice."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

MONDAY.

ODONTOLOGICAL SECTION (Hon. Secretaries—H. W. Trewby, D. P. Gabell, J. Howard Mummery): at 8 P.M.

Paper:
Mr. Percy Pickerill: Radicular Aberations.

Casual Communications:
Mr. James T. Carter: A Note on the Ameloblast Cells in Esox.
Mr. Warwick James and Mr. James Graham Forbes: An Epithelial Odontome.
Mr. J. Lewin Payne: An Interdental Splint.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY AND WEDNESDAY.—5 P.M., Dr. G. E. Smith: The Evolution of the Brain. (Arris and Gale Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLIC Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. H. Sequeira: Clinique (Skin). Lecture:—Dr. F. J. McCann: Irritable Bladder.

TUESDAY.—4 P.M., Dr. E. Wynter: Clinique (Medical). Lecture:—Mr. T. H. Openshaw: The Treatment Curvature.

WEDNESDAY.—4 P.M., Mr. M. White: Clinique (Surgical). Lecture:—Dr. C. Riviere: The Diagnosis and Th of Tuberculin.

THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique 5.15 P.M., Lecture:—Dr. J. Collier: Aphasia New Doctrine (illustrated by cases).

FRIDAY.—4 P.M., Mr. H. Todd: Clinique (Ear, Nose, and

POST-GRADUATE COLLEGE, West London Hospital, road, W.

MONDAY.—10 A.M., Lecture:—Surgical Registrar: Cases in Wards. 12 noon, Pathological De Bernstein. 2 P.M., Medical and Surgical Clinics. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operati Lecture:—Mr. Pardoe: Diagnosis of Surgical D Urinary System.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological 12.15 P.M., Lecture:—Dr. Pritchard: Practical 2 P.M., Medical and Surgical Clinics. X Rays. Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Etherington-Smith: Clinical.

WEDNESDAY.—10 A.M., Dr. Davis: Diseases of the and Ear. Dr. Saunders: Diseases of Children. Lecture:—Dr. G. Stewart: Practical Medicine. 2 P. and Surgical Clinics. X Rays. Mr. Harman: Diseases of 2.30 P.M., Operations. Dr. Robinson: Diseases of 5 P.M., Lecture:—Dr. Low: Bilharziosis.

THURSDAY.—10 A.M., Lecture:—Surgical Registrar: Dem of Cases in Wards. 2 P.M., Medical and Surgical X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P. tions. 5 P.M., Lecture:—Mr. Dunn: Cases of Eye D

FRIDAY.—10 A.M., Dr. Mo[illegible] Operations —Medical Registrar: [illegible] Wards Medical and Surgica[illegible] Davis: of the Throat, Nose, [illegible], Opera Abraham: Diseases of the Skin. 5 P.M., Lecture Taylor: Valvular Disease: Aortic Regurgitation.

SATURDAY.—10 A.M., Dr. Davis: Diseases of the Throat, Ear. Dr. Saunders: Diseases of Children. Mr. Diseases of the Eyes. 12.15 P.M., Lecture:—Dr. G. Practical Medicine. 2 P.M., Medical and Surgica X Rays. 2.30 P.M., Operations. *Dr. Robinson:* Women.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham Throat, and Ear (Mr. H. W. Carson); X Rays. 4.30 P.M. In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinic: 10 A.M., Med[illegible] 2.30 P.M., Operations (Mr. [illegible] patient (Mr. W. Edmunds); [illegible] 4.30 P.M., Lecture:—Dr. R[illegible] Sex in Disease.

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient Whipham); Skin [illegible]

THURSDAY.—2.30 P.M., [illegible] Clinics:—Medical [illegible] (Mr. H. W. Carson[illegible] G[illegible]

FRIDA[illegible] patient (Mr. [illegible] Clinics:—M [illegible] R. P. Brooks [illegible]

LONDON SCHOOL OF CLINICAL MEDICINE, Dr Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce D Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M. Lake: Ear and Throat. Out-patient Demonstrations: Surgical and Medical. 12 noon, Ear and Throat. Special Lecture:—Mr. W. Turner: The After-trea Cases of Abdominal Section.

TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Diseases of the Skin. Out-patient Demonstrations:— Surgical and Medical. 12 noon, Skin. 2.15 P.M., Lecture:—Dr. R. Wells: Points in Diagnosis and T of Aortic Disease.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Medicine. 3.30 P.M., Mr. C[illegible] Ou Demonstrations:—10 A.M., [illegible] 11 A.

THURSDAY.—2 P.M., Operation[illegible] cine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Barker: Radiography. Out-patient Demonstrations:— Surgical and Medical. 12 noon, Ear and Throat.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out Demonstrations:—10 A.M., Surgical and Medical. 12 n

SATURDAY.—2 P.M., Operations. Out-patient *Demo* 10 A.M., Surgical and Medical. 11 A.M., Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EP Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Mr. Armour: Sc the Nervous System.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. J. Taylor: Spinal

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray road, W.C.

TUESDAY.—3.45 P.M., Lecture:—Dr. A. Wylie: Larynx.

FRIDAY.—3.45 P.M., Lecture:—Dr. A. Wylie: Larynx.

Communications, Letters, &c., have been received from—

A.—Dr. R. W. Allen, Lond.; Messrs. Allen and Hanburys, Lond.; Mr. J. E. Adams, Lond.; Dr. F. W. Andrewes, Lond.; Sir Clifford Allbutt, Cambridge; Ardath Tobacco Co., Lond.; Australian Wine Co., Lond.; *The Anglo-Russian Gazette*, Lond.; Aberdeen University, Secretary of.

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